

Waryngrove

EX LIBRIS



ANCIENT AND MEDIÆVAL
ARCHITECTURE.



Arch of Titus. A.D. 81. Via Sacra, Rome.

Frontis

ANCIENT & MEDIAEVAL ARCHITECTURE

BY

THEODORE PIGNATORRE,

WITH

ONE HUNDRED AND THIRTY ONE
ILLUSTRATIONS DRAWN BY THE AUTHOR

AND A

GLOSSARY OF CLASSIC ARCHITECTURAL TERMS.

LONDON :
DRANE'S,
DANEGELD HOUSE,
FARRINGTON STREET, E.C.

London :

D R A N E ' S,

Ye Olde St. Bride's Presse,

82a, Farringdon Street, E.C.

Dedication.

I DEDICATE THIS WORK TO MY DEAR WIFE IN TOKEN OF THE LOVE, AFFECTION AND ESTEEM THAT I HAVE FOR HER AND IN RECOGNITION THAT THIS PRODUCTION, WHICH WHATEVER MAY BE ITS VALUE HAS COST ME TIME AND LABOUR, WOULD NEVER HAVE BEEN ACCOMPLISHED WITHOUT HER CONSTANT ENCOURAGEMENT AND SYMPATHY.



Index.

	Page.
PREFACE	11
ANCIENT ARCHITECTURE	13
PELASGIC	17
CELTIC	18
ETRUSCAN	30
GREEK	46
ROMAN	66
EGYPTIAN	120
PHŒNICIAN	143
ASSYRIAN	153
PERSIAN	157
CHINESE	160
INDIAN	166
AMERICAN	172
MEDIÆVAL ARCHITECTURE (Byzantine)	180
SARACEN	186
ROMANCE-LOMBARD	190
GOthic	198
REBIRTH	209
ORDERS OF CLASSIC ARCHITECTURE (Etruscan)	222
DORIC	230
ROMAN	237
GRAECO-ROMAN	238
IONIC	239
CARYATIDE	244
ATLANTES	246

CORINTHIAN	..	..	..	..	..	250
GREEK	..	..	..	..	..	252
ROMAN	..	..	..	..	..	252
COMPOSITE			..	..	..	254
GLOSSARY OF TERMS OF CLASSIC ARCHITECTURE					..	261

Preface.

The purpose of this work is to give a brief description of architecture in its several styles among the various peoples of ancient and mediæval times. The regular study of all professions is necessarily confined to those who respectively select them as the aim and business of their lives and for these there is of course the appropriate technical literature. But besides the professional classes there is another section of the public who while not seeking to learn any particular science, art or trade as a career, are, nevertheless, desirous of obtaining some information in the more important branches of human knowledge, and Architecture is unquestionably one of them. It is with a view of conveying this degree and kind of knowledge of this Art in a summary and general way that this work has been produced. There are, it is scarcely necessary to add, many non-professional works of a similar nature, available, but any contribution, however slight, may not be held as superfluous in consideration of the magnitude and importance of the subject and of the number of those who wish to know something relatively to it. The study of ancient classic Architecture must obviously be regarded from two standpoints of about equal interest and value, namely, the historic and the artistic, that of the mediæval is naturally based mainly on the second.

Each style of Architecture covers a certain more or less remote, longer or briefer period during which it flourished and the respective dates of the birth and introduction of each is somewhat vague, contestible and contested. For instance, the date of the origin assigned to the Egyptian comprises any time from 5000 to 3000 B.C., that of the Greek from 4000 to 2200 B.C., and that of the Roman from 753 to 100 B.C. This divergence arises in a great measure from the different theories favoured with regard to the time in which each Architecture definitely assumed its completely national and independent type, but in any case, to attempt to discuss, conciliate or decide upon the relative merits of the various conjectures and statements would probably be a fruitless and certainly a long and difficult task quite incompatible too, with the nature of this work. There is, however, no question in respect to the dates of the end of each Architectonic style, which is, of course cœval with the termination of the existence of the people who severally invented and produced it as an independent State.

It will be realized that the character and scope of this work imposes a concise and synoptical treatment of a subject which is nevertheless vast, comprehensive, varied and weighty, and these two facts will doubtless be taken into consideration by the reader.

The illustrations and plates mostly taken from authentic specimens of the various Architectures serve as the complementary and confirmatory examples of the written descriptions, and the Glossary attached gives the classic terminology, historical origin and definition of the mouldings, members, sections and constructions.

THEODORE PIGNATORRE.

Ancient Architecture.

The term “ Architecture ” is a composite word derived from the two Greek ones of—*Arhé*, Head——and—*Técton*, Artificer or Artisan, which has been adopted to signify the sum of human knowledge relatively to the construction of buildings, and this Art may be defined as the most ancient, the most useful and the vastest of all, and the enduring lapidary record of the history and the practical expression of the psychology of the several nationalities of the world.

The inherent aspiration of man towards improvement and the ideal of beauty caused him after providing for the needful and then for the comfortable to produce the beautiful in this direction as in others. As primitive man instinctively invented certain phonetic sounds to express his elementary wants, which were as he became more and more civilized, regulated and embellished into harmonious and eloquent words and phrases, so, as he developed, after leaving the natural shelters, caves and forests, earth afforded him, he began first to build rudimentary huts of turf, timber and stone, then houses from which was born the architectonic Art to create progressively finer structures and to culminate in splendid monumental edifices. And to pursue the simile further it may be said that in construction sculpture stands with respect to architecture in a somewhat similar relation as poetry in literature does to prose.

Many of the terms are derived from the Greek, and for the benefit of those who do not know that language, the Greek characters are omitted and substituted by what I consider the nearest pronunciation of the original Greek words, in Latin letters, printed in Italics.

Both Sculpture and Poetry are refining, instructive and charming, but Architecture and Prose can be quite as beautiful, fascinating, elevating and enlightening and at the same time as a rule incomparably more useful than their respective ornamental sister Arts. All terrestrial entities and concerns are marked by three main stages : their rise, their meridian and their fall. In other words, there is a limit to everything beyond which no further progress is possible, and which, after a stationary period or prime, is followed by a decline.

Architecture was destined to attain its zenith in the golden ages of Greece and Rome, between the Egyptian, Pelasgic, Etruscan, Celtic, Phœnician, Chinese, American, Indian and Assyro-Persian structural styles, which were antetemporary and contemporary, and the Byzantine, Saracen, Gothic and Rebirth in all their branches, which were postemporary.

We will now proceed to a cursory notice of the various constructive styles :—

Pelasgic and Celtic.

PELASGIC AND CELTIC.

PELASGIC. So far as has been gathered, the Pelasgi, apparently a branch of the great Arian family, migrated in very remote times from Asia to the three southern Peninsulas of Europe, Greece (wherefore this country was called Pelasgia) Italy and Spain, and their adjacent islands, where we find them as aborigines as early as some eighteen centuries prior to the advent of Jesus Christ.

Several historians affirm that they were given to agriculture, mining and the rudimentary arts and therefore for the times a cultured and wealthy people. The constructions of this ancient race cannot be correctly termed architectonic works because the æsthetic conception and the rules of art are alike wanting, but at most the first attempts at art, nevertheless the very boldness, rudeness, nudity and size of these productions invest them with an aspect of ponderous solemnity and perpetuity.

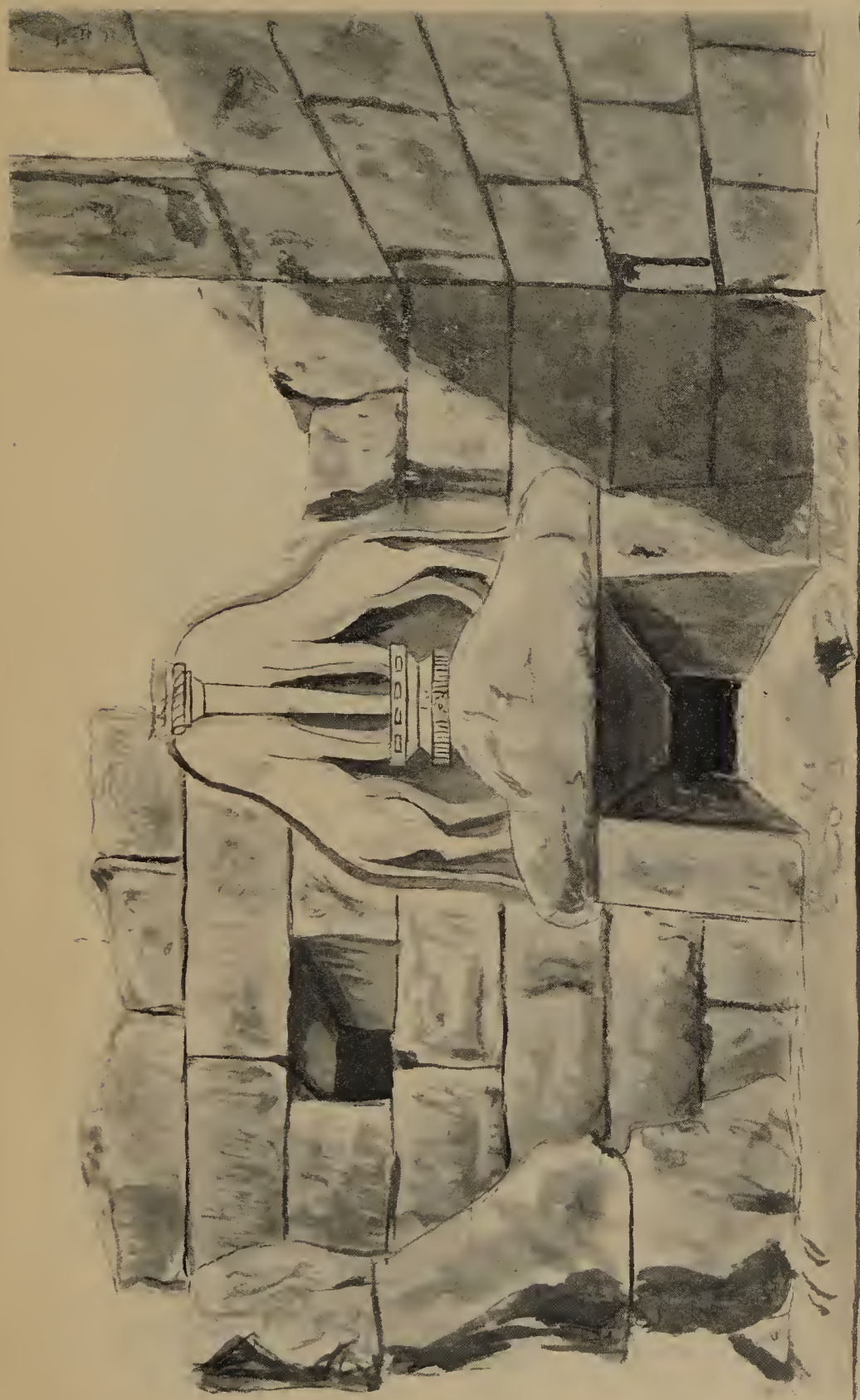
These erections evidently belong to different periods but it has not been found easy to determine with certainty to which each severally appertains. The most ancient are considered those in which the huge, polygonal blocks of stone or pieces of rock are placed together indiscriminately with smaller ones all with rough jagged surfaces. Next come those composed of stones cut into some sort of shape quadrangular or cube and thirdly, as a link with the monuments of the historic age, are the buildings in which the stones are more regularly hewn and fitted, the chisel comes into operation and an elementary plan is carried out. These constructions have been styled Pelasgic, Polygonal and Cyclopiian, the reasons for the application of the first two epithets are obvious, the third was used *ab antico* owing to the size of the component parts being so great that it was imagined that the Cyclops, the one-eyed giants of mythology, were alone capable of handling them.

The most noteworthy of the existing vestiges of these constructions are those of the so-called "Larissae" or Fortresses in various parts of Greece and Italy, the walls of Tirinto and their galleries, the building called "Gigantea" in the island of Gozzo, near Malta, the queer "Nuraghi" chiefly in Sardinia, the Gate of the Acropolis of Missene with its steps, the most regularly built of all, and the Acropolis of Mycene, with its gateway ornamented with two carved rampant lions, in which we perceive an attempt at sculpture. The latest genuine Pelasgic works have been dated at about the VI pre-Christian century.

CELTIC. The Celts, an ancient people of the vast Indo-Germanic stock, who once spread themselves over a large portion of upper and central Europe, principally France, Great Britain, Ireland and the neighbouring islands, and advanced as far southwards as Spain and Asia Minor, but who subsequently, owing to their expulsions from Germany, their subjugation by the Romans and their absorption by other races were reduced to very restricted limits where they still preserve their language and racial characteristics though they have ceased to exist as an autonomous separate people.

With regard to their structural works, the Celts may be said to have accomplished in a measure in the parts of Europe they inhabited what the Pelasgi did in theirs, but besides the fact that their efforts in this direction having even less claim to art than those of the Pelasgi, unlike those of the latter, the Celtic rough, crude constructions never attained any real progress or development with the course of time wherefore it has been assumed that this people was not endowed with the artistic tendencies and talents of other anterior, cœval or posterior nationalities.

The scant surviving remains of Celtic structures, mostly of a religious and sepulchral character, have been classified *faut de mieux* as follows, but though this nomenclature and classification are not founded on absolutely authentic information, they are those more generally accepted. The "Menhirs" erected it is affirmed to mark the site of some battle, of which the most interesting perhaps, is that of "Karnac" in Brittany; the "Dolmans" in Gaul, which served as Altars or Tombs consisting of rough blocks of stone placed



Pelagic Constructions. Gate of the Lions in the Acropolis of Mycene.



Pelagic Constructions. Gallery of the Walls of Tirinto, Peloponnesus.



Celtic Constructions. Dolmen at Anglesey.



Celtic Constructions. Fairies' Grotto at Saumur, France.

horizontally on smaller ones standing vertically like great tables ; the " Cromlechs " that some maintain to be identical with the Dolmans, which are said to have been erected on the spots selected for pilgrimages because traces of prehistoric Temples have been sometimes discovered near them. In form they have a general resemblance to the Dolmans, except that the upright pillar stones do not appear to have been always surmounted by a larger one crosswise and also because the stones are placed in a circle. The largest specimen of the Cromlechs is said to be in Guernsey and the best known at Stonehenge, in Salisbury Plain, Wiltshire.

There were also other Celtic erections the so-called " Tumuli " conjectured to be sepulchres, like the " Rock of the Fairies " in Brittany and the " Pelven " a rude species of pyramid, etc.

As a rule, these erections were not high, but some are said to have reached 62 feet in altitude. It seems almost impossible to establish even approximately the date of the introduction of Celtic construction in Europe, but while in France most of these erections do not appear to be of more recent times than those immediately prior to the Roman conquest of Gaul and at any rate, not after the II Christian century, in England on the contrary, it is alleged there were Celtic structures of as late a date as the VIII century.

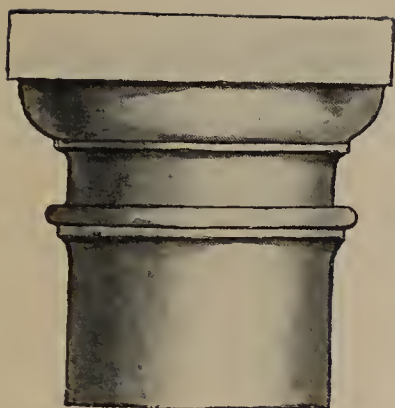
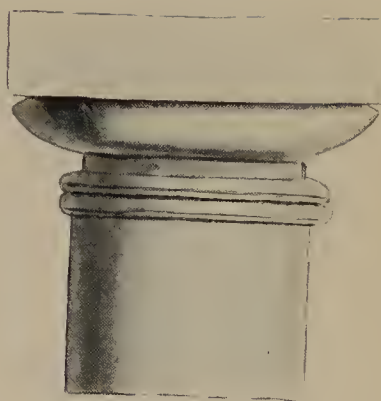
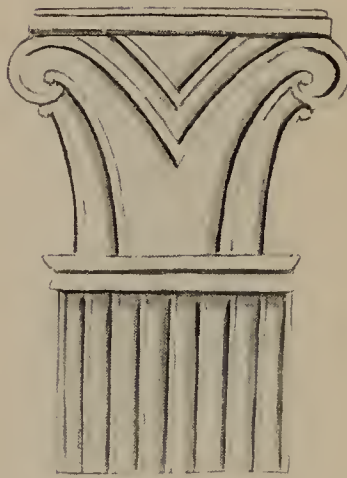
Etruscan.

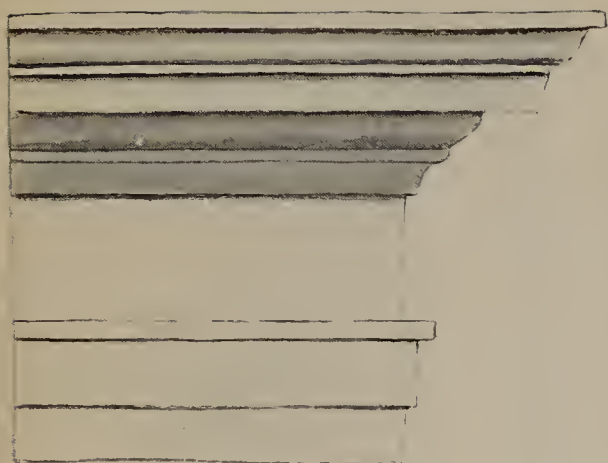
ETRUSCAN.

ETRUSCAN.—The origin of this race is perhaps even more obscure and problematical than is usually the case with regard to ancient peoples. Some archaologists and etymologists maintain vaguely that they were an emigrant tribe come from some unknown land at an undefined period to settle in central Italy in the region called “Tirrhēnia” by the Greeks and first “Tuscia” and after “Etruria” by the Romans (the modern Tuscany) others prefer the hypothesis that the Etrurians were not immigrants at all but an aboriginal Italian people like the Samnites, Latins, etc. In either case it is certain that they surpassed their contemporaries in Europe in civilization and in consequence their architecture was the earliest in this continent, so far as we can gather, which merits the titles of an art and a science.

Another disputed question relatively to the Etruscans is whether they derived or appropriated any ideas or models from the Egyptians and Greeks in the formation of their national architecture. If either of these hypotheses were to be admitted at all the probabilities would be in favour of the latter, firstly, because the Etruscans and Greeks were topographically nearer, secondly, because they were racially more akin and thirdly, because there is even less resemblance between the Etruscan and Egyptian architectonic styles than there is between the Etruscan and the Greek. Eliminating, therefore, the Egyptian theory, in favour of which can only be adduced a priority of antiquity in another continent, and dealing with the second it must be borne in mind that besides the dissimilarity of the Etruscan and Greek styles, at the time that the power, art and civilization of Etruria were in their prime, those of Greece were in their adolescence, and therefore if either of the two influenced or borrowed from the other it is evidently more likely that the younger (Greece) should have done so from the elder (Etruria,

CAPITALS.

*Rectus.**Rectus.**Curvus.**Curvus.*



Entablature.



Gate of the Walls of Cefalu.



Altar.



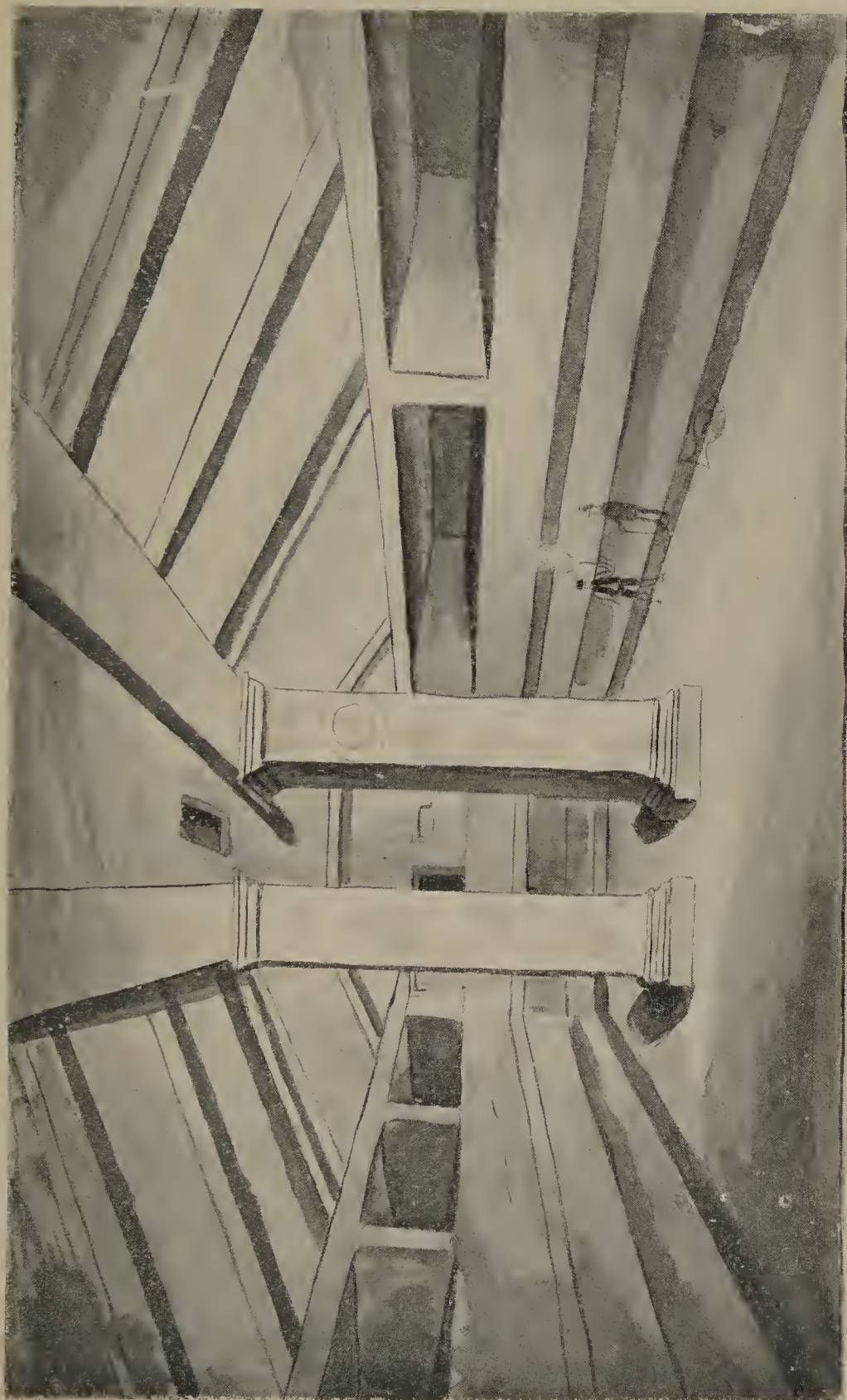
Drain.



Temple of Jupiter on the Capitoline Hill, Rome (Reconstruction).



Gate of Volterra.



Sepulchre of the Tarquins at Cervetri.

than vice versa. Likewise some writers describe the Etruscan as the lineal successor of the Pelasgic. If they mean by this that the former succeeded the latter in point of date their assertion is correct, but if they intend to convey thereby the idea of any connection between the two, their contention is obviously erroneous.

We may consequently come to the logical conclusion that their architecture was essentially a creation of the Etruscans themselves. But whatever controversies may have arisen in the above respects there has never been any question or doubt regarding the influence of the Etruscan element in the newly amalgamated Roman State, an influence that was not limited to art alone, because the Etruscan civil and religious principles and institutions were introduced permanently into the young Kingdom, whose later Sovereigns were Etruscans. It has been well said that a people is in every sense in a great measure formed by its system of Government and the Etruscans were favoured by the best, a free, industrious people directed but not oppressed by a lay aristocracy, called "Luceres," and therefore not debased or corrupted by the bestial despotism of plutocracy, militarocracy or ochlocracy.

The principal features of Etruscan architecture were its simplicity, solidity and symmetry. It is obvious that with the Etruscans in structural works the decorative branch held a subordinate place to the constructive in a greater degree than was the case with other peoples. But although essentially plain in character this does not signify that this architectonic type was intrinsically and absolutely inferior to the others or even that the ornate element was always or altogether banished from it, because besides possessing in general a simple ornamental style of its own in moulding and elegance of form and arrangement, we have in proof that the Etruscans aimed occasionally at a richer standard of decoration the pilasters with decidedly ornate capitals and fluted shafts discovered in the Tarquinian Hypogaeum, and it is quite possible that there were other similar ones destroyed or not as yet unearthed, especially as in other directions such as for instance, their amphoræ, candelabras, furniture, utensils, their productions were renowned not only for their eminently graceful shape but also for their exquisite decorative work.

The Etruscans were recognised as the best engineers, artificers and artisans of their times as is proved by the fact that they were called upon in preference to all others as the most competent when works of importance were to be executed. The " Gate of Volterra," the " Sepulchre of the Tarquins " at Cervetri and the fragmentary remains of " Cucumella " in their own land and the " Cloaca Maxima " the " Circus Maximus " the " Templum Jovis Capitolinus " (the last two entirely disappeared) the " Tomb of Bibulus " (Etrusco-Roman) in Rome and that of the Horatii and Curiatii bordering the Via Appia near Albano, are among the examples either in ruins or in records of their ability. The aforesaid Temple of Jupiter on the Capitoline Hill, and that of Diana on the Aventine (likewise vanished) are quoted as being among the purely Etruscan edifices that approach more closely to the stately and ornamental standard.

Dyonisius of Halicarnassus, Diodorus Siculus and Vitruvius have all referred to Etruscan architecture in terms of eulogy descending, especially on its strength, simplicity and accurate execution. These men on whose competency on this head it is superfluous to dilate, mention in particular as noteworthy the size and massiveness of the Etruscan habitations, the typical trapezoidal shape of their doors, their three-celled Temples, plainly and symmetrically built, their well-proportioned columns and pilasters with the wide, intercolumnation favoured by them.

But above all must be emphasized that the credit of inventing one of the most important architectonic members, the semicircular unknown to the Greeks and perfected by the Romans into the beautiful Roman Arch, belongs entirely to the Etruscans and constitutes, together with their Rectus Column, their principal and valuable contributions to classic Architecture.

In consequence the Etruscan architectural style, except when used by them for their own prostyle edifices, was adopted by the Romans and subsequently by posterity chiefly for two kinds of constructions for which it is admirably qualified. In the first place for those buildings or sections of buildings which require plain and robust columnar accessories in the nature of pillars, pilasters and

piers as supports and borders, such as vaults, gates, walls, bridges or the ground stories of fabrics, and in the second for the huge, isolated memorial columns whose dimensions and detached condition render a strong, massive shape and outline suitable and essential.

Of the application of the Etruscan Rectus in the former capacity we have innumerable examples in ancient and modern times and in the latter also several instances among which may be cited the stupendous triumphal Columns of Trajan and Aurelius in Rome, canonically Etruscan in members and mouldings though Roman in decorations and reliefs. With regard to the details and rules of Etruscan Architecture, see page 222.

Greek.

GREEK.

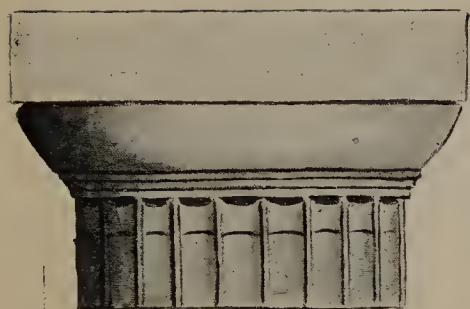
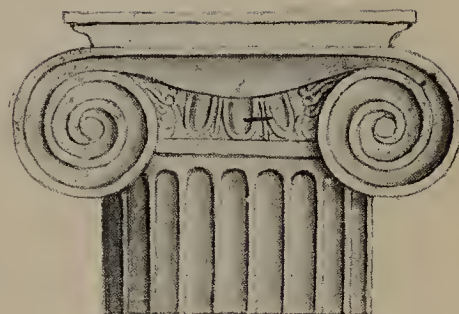
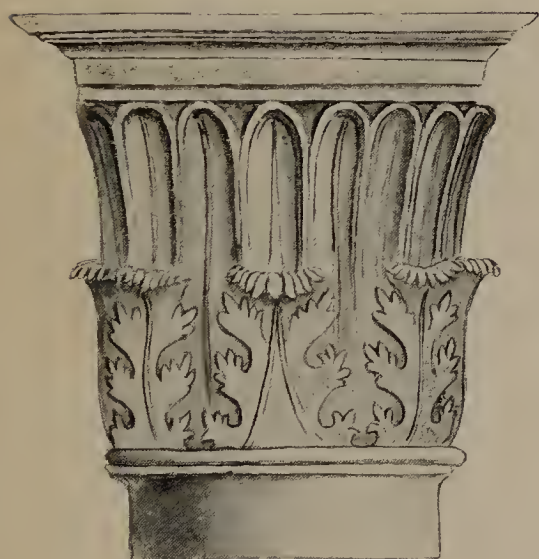
GREEK.—The name of “ Hellenes ” is derived from “ Helenus ” who, as mythology and tradition relate, was King of Ithone in Thessaly and who had three sons, viz : Dorus, Eolus and Xuthus, the last having also two, Ionus and Achaïos, from whom the homonymous tribes of the Dorians, Eolians, Ionians and Achaïans took their respective appellations.

The name of Greeks was given to all the inhabitants of this peninsula by the Romans, who first came in contact with a sub-tribe called “ Graeci ” which henceforth became the prevalent denomination of the country and the people, Græcia and Græci instead of Hellas and Hellenes. Although this race generally consider themselves descendants of the Pelasgi, this claim does not seem well founded at least in an absolute sense, seeing that so far as has been gathered the Pelasgi were the indigenous inhabitants of this region while the Hellenes were the invading settlers, who partly drove away and substituted and partly subjugated and absorbed them, as happened much later in France to the native Celts by the Franks and of which history furnishes us so many examples.

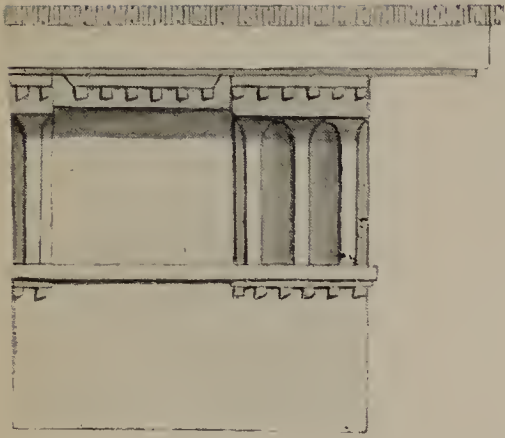
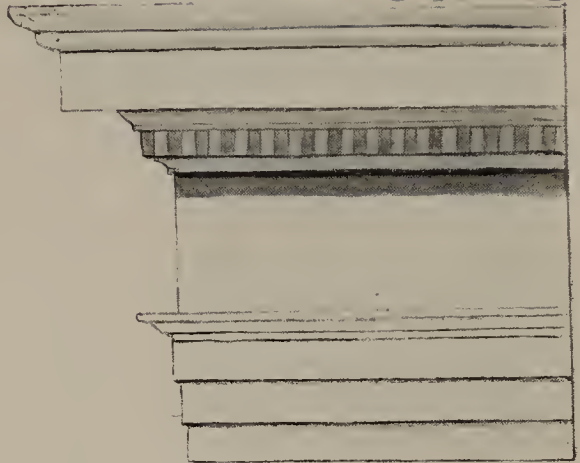
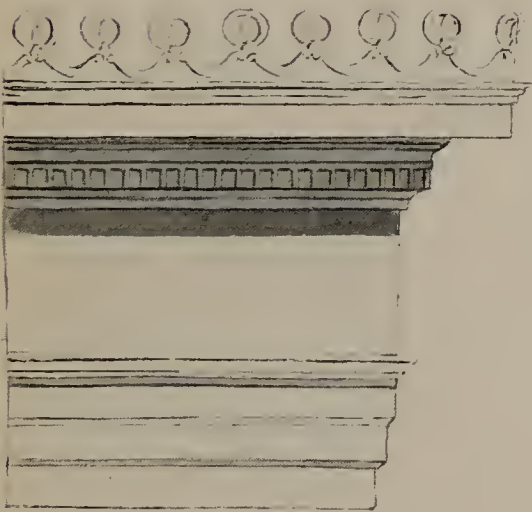
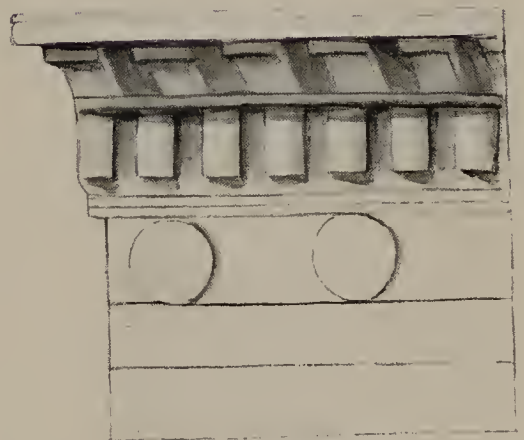
The constructive and architectonic productions of a people have been rightly described as its most reliable history written in durable and colossal stone letters and if we may therefore judge upon this basis by the remains of the respective works of the two peoples in question, we may confidently conclude that they were not only two distinct races of different attributes but also that the Hellenes were by far the more gifted of the two.

The evolutions and developments of architecture among the Greeks may be divided into four stages. The first style “Archaic ” from *Arhaïcs*, Ancient, which, if inclusive of the prehistoric

CAPITALS.

*Doric.**Ionic.**Corinthian.**Corinthian.*

ENTABLATURES.

*Doric.**Ionic.**Corinthian.**Caryatide.*

and Pelasgic periods might be perhaps dated roughly about 2200 B.C., and if exclusive of them, from about 1100 B.C. down to 580 B.C. The second, in which epoch Greek art assumed its more definite, finished and national type, called "Aeginic" because it was chiefly developed in the island of Egina, covers the time from 580 B.C. to 430 B.C. The third, the "Akmaik" from *Akmi*—Climax, lasting from 450 B.C. to 336 B.C. The fourth, the "Parakmaik" from *Parakmi*, or Decadent, from 336 B.C. to 146 B.C.

The information attained with reference to the first and longest period is naturally of a very meagre and vague nature. From Homer we learn something relatively to the plan of the higher class residences of the Greeks of the later Archaic era. These houses were approached by two courts, the first simple and rudimentary, the second more ample and ornate; encircled by pillars with the altar to Zeus in the centre. These led to the habitation proper which commenced with the Vestibule, destined for the day and night accommodation of strangers, opening into the most important compartment of all, a Hall in which all, hosts and guests, met, surrounded by the men's apartments termed collectively "Andronicus" or "Andron" from *Anir*, Man, and the women's above called "Gynekeion" from *Gyni*, Woman. Beneath were the subterranean cellars for the storage of grain, wine, oil, etc., and also for the family articles of value. Gardens and orchards were annexed and the entire dwelling with its accessories was bordered by strong walls.

The furniture, it is affirmed, was frequently of costly material, ivory and marble, and of artistic workmanship.

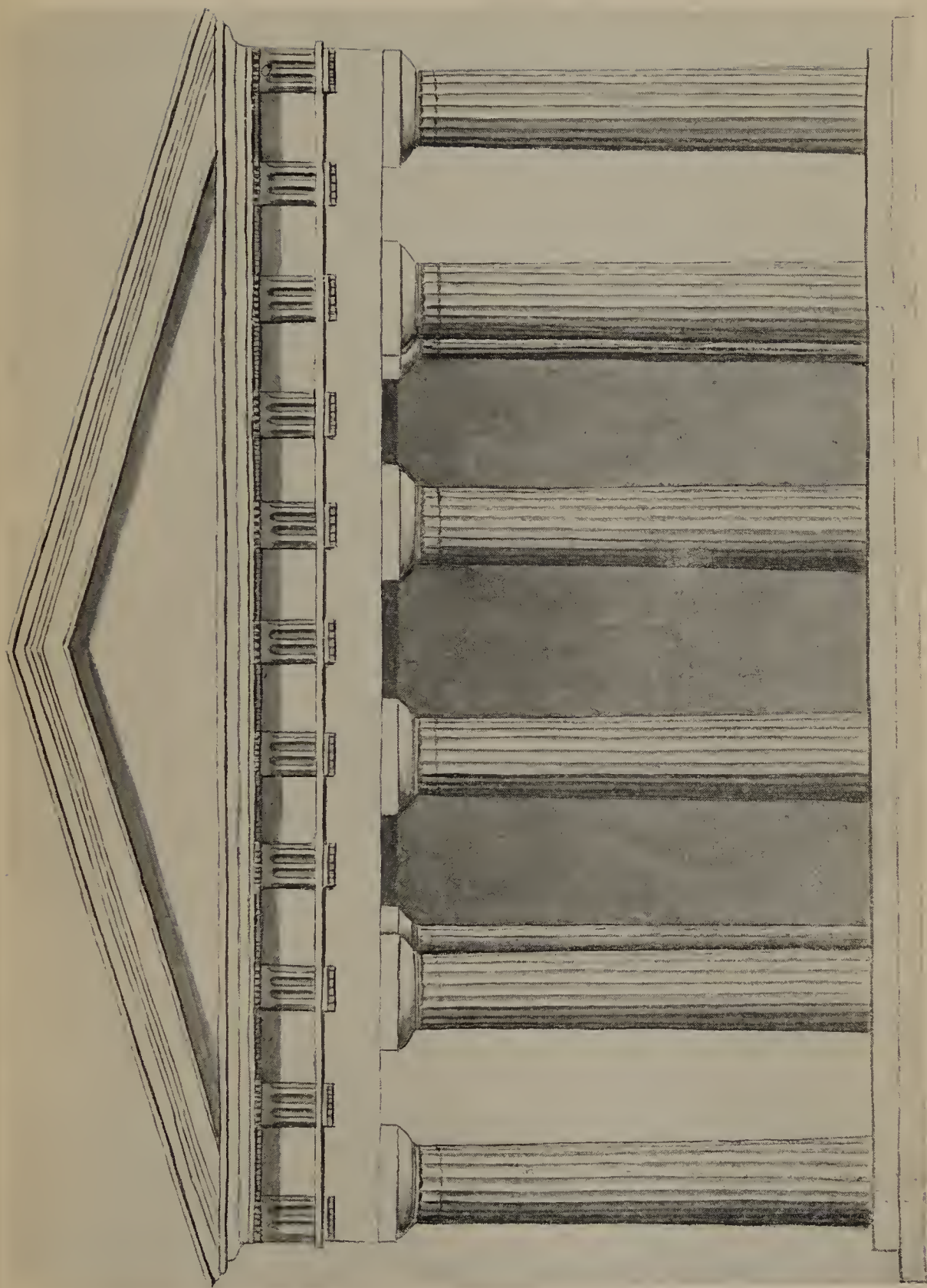
The Greek Temples, of this and the succeeding stages, were not usually of great dimensions and height but mostly of graceful architecture and valuable material. They were generally divided into three main sections, viz:—The "Pronaos" or Portico, the "Naos" or Temple and the "Opisthodomus" or back structure, a species of presbytery. Their length not comprising the Pronaos was usually about twice their breadth, and they were classified as follows. The "Ante" resembling the Egyptian type, the simplest of all, with two columns, and two lateral pilasters in front, the

“ Prostyle ” with four columns, the “ Amphiprostyle,” with two prospects or facades of six columns each, the “ Octastyle ” with eight columns, the “ Pseudostyle ” with attached columns or pilasters in place of the columns, the “ Peripterus ” or Temple completely encircled by a colonnade and the “ Hypaithron ” or Uncovered Temple.

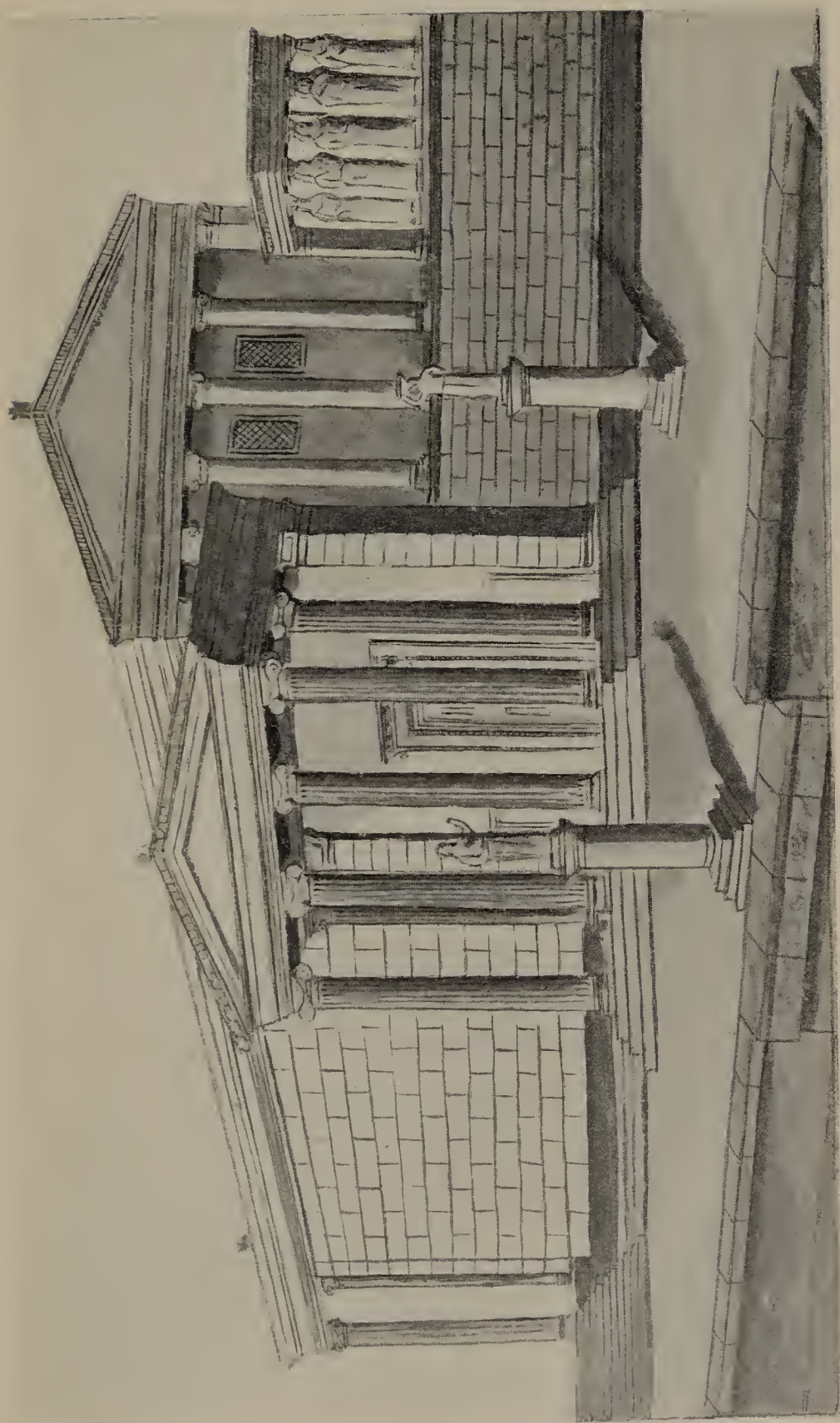
The Sepulchral structures of the Greeks were for a long period of a very elementary description, but later this class of edifices were of a highly sumptuous and artistic style. The most famous of all, and deservedly so, was that of Mausolus King of Caria, B.C. 377-350, erected to him B.C. 350 by his sister and wife Artemisia, from which all subsequent Sepulchral Monuments of this category took the epithet of “ Mausoleum.”

The most eminent artists of the times such as Scopas and his rivals Timotheos, Leocaris and Petius collaborated in its construction, composed of the costliest and finest marbles and the result justified their fame and testified to the absorbing love of Artemisia which accounted no price or efforts too high for the production of a memorial monument worthy of the adored man for whose loss she was inconsolable and to whom she sought to remain united materially even after his departure by drinking his ashes mixed in liquid. This Monument, which Plinius styled one of the Seven Marvels of the Universe, and from whose pen we have the most detailed description concerning it, did not belong exclusively to the Greek architectonic school, but presented a combination of the Greek and, Egyptian styles with its Ionic Colonnade and Biga (Greek) on the summit of the stepped ribbed Pyramid (Egyptian) that surmounts the said columns, and it must be confessed that the two styles in this instance harmonized admirably. This beautiful creation survived the burning of Hallicarnassus by Alexander of Macedon and other successive vicissitudes and even Mussulman invasion, to be destroyed by the Knights of Rhodes who used the materials to build a bulwark. Some of its fragments are now preserved in the British Museum in London.

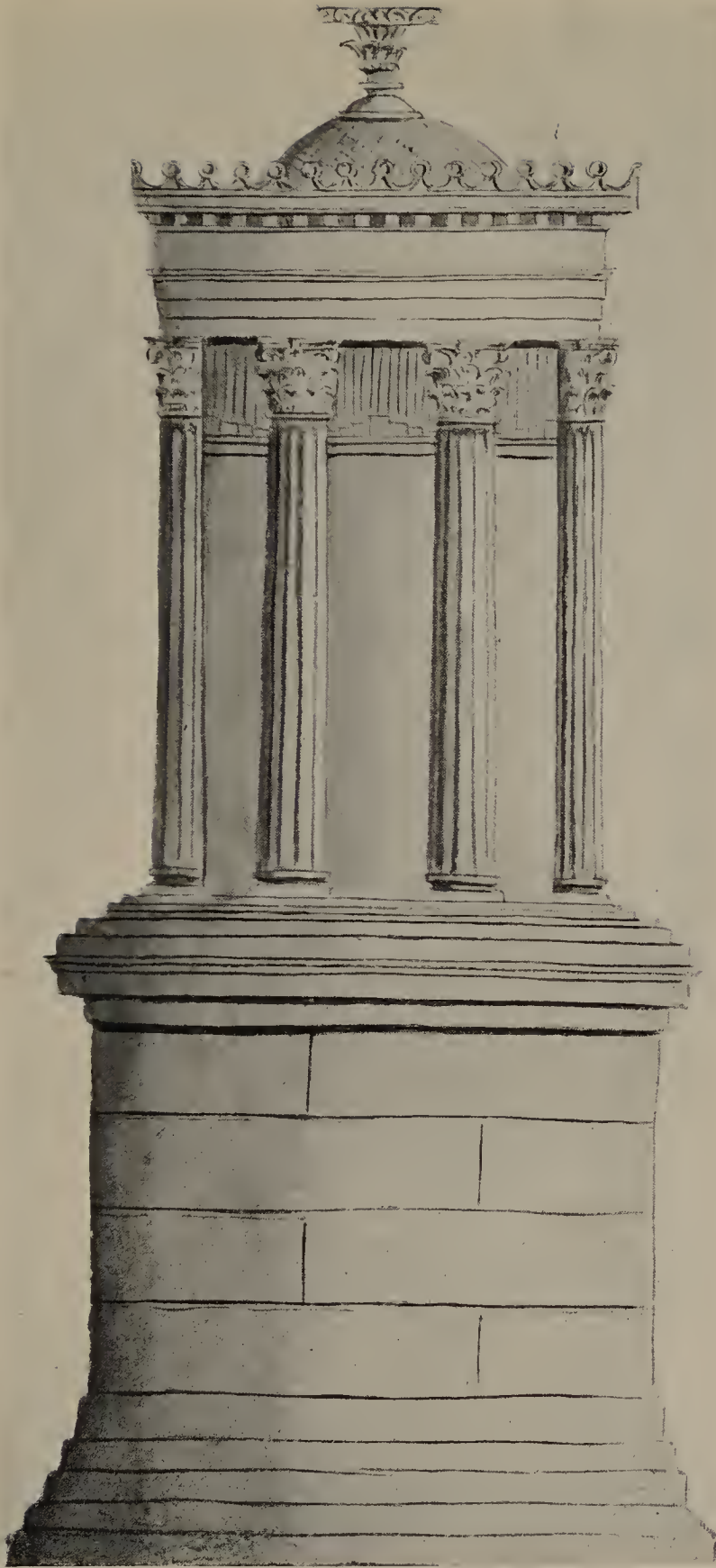
Ecatomo, brother of Mausolus, also had a grand Tomb erected for himself at Melasso and similarly a combination of the Greek



Temple of Theseus (Facade), Athens. (Reconstruction).



Double Temple of Athena, Poseidon, Erechtheus and Pandrossos, Athens. B.C. 450-390.



Monument of Lysikrates. (Reconstruction).

and Egyptian architectures, consisting of two stories likewise, with eight Corinthian columns terminated laterally by pilasters with their canonical entablature and surmounted by a pyramid. Both these superb erections were reached by a high flight of steps. There were besides several remarkable and even splendid Sepulchral Monuments at Agrigentum, Myra, Carcamo, etc.

But the principal and distinctive character of Hellenic Architecture and the chief contribution of this people to this Art lies in their claim to the invention of the three Orders, namely, the Doric, Ionic and Corinthian, though some authorities dispute this claim with regard to two of them and others to all three. The first while allowing the Ionic to be of Greek creation maintain that the Greek Doric is a modification of the Egyptian Protodoric or of the Etruscan Rectus, the absence of the latter's base in the Greek columns being accounted for by the dryer climate and soil of Greece as compared with the damper conditions prevailing in Etruria which did not render this ground protection equally necessary ; and as regards the Corinthian capital it is declared to be the legitimate offspring of the Egyptian of the Palm Order which it certainly resembles somewhat in foliage and still more in shape, whereas the second section of archaiophiles, while endorsing the opinion of the first relatively to the two above Orders, further add that the Greek Ionic is quite as much a variation born of its archetype the Etruscan Curvus as the Greek Doric is of the Etruscan Rectus.

However this may be and even admitting that the Greeks copied and adopted some of the ideas, inventions and rules of art in a more or less modified form from their above predecessors, it must also be recognised that they subsequently constituted a distinct architecture of their own remarkable for its grace and beauty, but not in an equal degree for the qualities of boldness, magnificence, vastness and variety.

As we recognise with reference to Greek literature that their poetic works are as a rule superior to their prose, similarly their sculpture, essentially and exclusively an art of beauty, is held with reason to excel their architectural creations.

To cite one instance in point among so many, the statue for example of Sophocles, in the National Museum of Rome is a sculptural product that is probably unequalled and certainly not surpassed for its exquisite grace, dignity and beautiful contours and attitude, whilst their architecture, (with the exception of their earlier buildings that were somewhat squat and heavy) though undoubtedly lovely is less conspicuous as aforesaid in the grander attributes *and* has been in consequence sometimes equalled and also excelled.

— By far the greater number of Temples and other edifices of Greece and Greater Greece belonged to the Doric Order, much fewer to their Ionic and fewer still to their Corinthian. Of the numerous Temples of the first-named Order the best surviving specimens are held to be the ruins of the Temples of Theseus and Minerva, the latter nicknamed the “Parthenon,” at Athens and those of the Temple in the Acropolis of Salinunto in Sicily dedicated to some as yet unidentified Deity, the two first appertaining to the third or Akmaik period and the last to the second or Aegenic.

— Of the Ionic Order the most typically representative ruins are considered to be those to the Temple consecrated to four Titulars, namely, Poseidon or Neptune, Athena or Minerva and to the Kings Erectheus and Pandrossus, son of Cecrops. This Temple, which is generally known by the name of “Erectheion,” is one of the finest and most remarkable extant, and though it was much if unavoidably damaged, especially during the siege of Athens by the Venetians in A.D. 1687, there is still enough remaining of it to attest its artistic merits. The Pronacs facing north is composed of six Ionic columns, the east section is likewise decorated with columns of the same Order, and fronting the south stands a small and elegant Atrium the roofing of which is sustained by six Caryatides with their peculiar entablature, all excellent specimens of the two Orders, Ionic and Caryatide.

The best example of the Greek Corinthian Order now existing seems to be the circular Templet, conjectured by some to be a memorial Monument or a Kenotaph, with six columns and Greek Corinthian entablature raised on an elevated base erected by Lysikrates



Mausoleum of Mausolus, King of Caria. B.C. 353.

in honour of a victory achieved by the Accamantide in a musical competition.

The Greeks were lovers of rich and varied colouring, very charming in itself and when adopted by their great masters such as Apelles and Zeuxis, productive of the most fascinating results, but when this people went so far as to apply bright and many colours, not always harmonizing either with each other or with the edifice to which they were applied, this excessive tendency to polychromatism amounted to a prostitution of the Art of painting and a desecration of that of Architecture, because to colour over sculptured marble or even stone so transcendently beautiful in itself and its work, is equivalent, not to enamelling at which pure artistic taste even demurs, but to staining or daubing chiselled bronze, silver or gold. As a plain coat of paint has no lights or shades, no perspective, no fine details, no expression, and, it may be added in the case in question, no harmony of hue, it is reduced to a smearing of splendid material and workmanship.

A conspicuous example of this anomaly in an otherwise eminently æsthetic race, may be furnished by the Temple of Jupiter Panelenius at Egina, of which the walls of the Nave were coloured with vermillion, the fillets and frieze of orange yellow, the tympan of the pediment with prussian blue, the triglyphs and guttas with cobalt blue and the other mouldings and members with green. The degenerate successors of the Hellenes, the Byzantine Greeks, continued to adopt this system of painting their architecture only they did it more gaudily and tastelessly, generally over inferior material and invariably over inferior work.

The fourth Greek architectonic era, the Parakmaik, also called the Ornate, owing to the profusion of decoration usually favoured during that period, although on the whole incontestibly decadent relatively to the pure classic style, offered nevertheless some fine examples of architectural constructions, particularly in Sepulchral Monuments and private and public lay edifices.

It has been wisely said that a people is in the main what its government is, because as has been already remarked, the latter moulds and directs the governed, and there never was perhaps a

more striking instance of the truth of this political aphorism than in the case of the Greeks of these times, who, as soon as they lost their own independent systems of government on being reduced to a Roman province also lost almost simultaneously their powers of producing a typical national literature and art. Their racial faculties and talents remained in a sense, that is, they continued to be ingenious and excellent workmen but their qualities were numbed and sterile in another, in individuality and in national character, and their productions, however fine, no longer bore the impress, the sign manual of Hellenism, but were superseded by Romanism which henceforth dominated and almost exclusively influenced in all directions not the Greeks alone but the vast majority of mankind.

The year 146 B.C. may therefore be fixed as the date of the grave of the production of the genuine, pure Greek school in the higher spheres of independent, national conception and execution.

Roman.

ROMAN.

ROMAN.—Roman architectonic art may be divided similarly to the Greek into four stages and similarly also if the first preliminary one anterior to the formation of a distinct national architecture be excluded, there remain in both, the three normal stages.

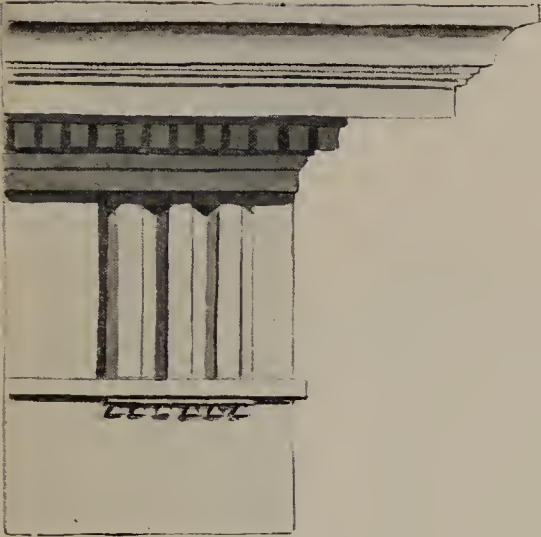
The first, the “ *Prisca* ” or Ancient dating from the foundation of the Eternal City, B.C. 753 to B.C. 550. The second, the “ *Progressia* ” or Progressive comprising the period between B.C. 550 and B.C. 180, The third, the “ *Aurea* ” or Golden embracing the time from B.C. 180 to A.D. 230, The fourth, the “ *Cadentis* ” or Decadent from A.D. 230 to A.D. 446, when the original Roman Empire ceased to exist.

In its initial stage, the Roman architecture was mainly the Etruscan, gradually more and more modified and perfected in a technical sense by the former, especially after the union and fusion of the three peoples, Romans, Sabines and Etruscans into the Roman State. It is almost superfluous to add that most of the constructions of this early period have totally disappeared and among them the most important such as the Circus Maximus at the foot of the Palatine Hill and the Templum Jovis Capitolinus on the Capitoline, of which even the later reconstructions have been obliterated even to a trace. The vestiges of the Domuncula Romuli, Templum Jovis Victoris and the Mundus in the “ *Roma Quadrata* ” on the Palatine, of the Vesta and Juturna buildings and Regia Numæ in the Roman Forum and the Carcer Mamertinus at the foot of the Capitoline Hill, are all with the exception of the Regia, it is averred, and in some cases proved, the remains of the original constructions of this first period. The Cloaca Circus, near the Cloaca Maxima, declared to be superior to the latter better known Drain in construction, is, it is asserted, likewise a *Prisca* structure.

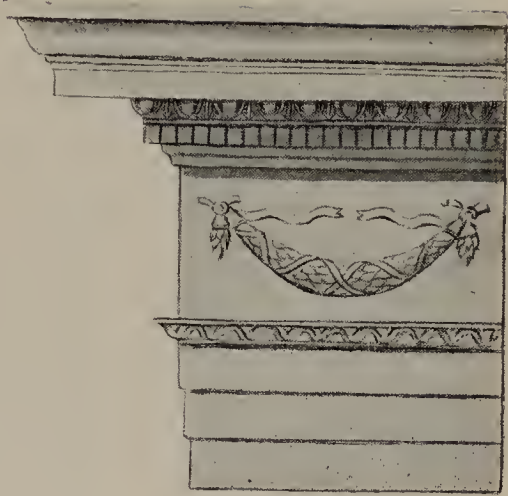
CAPITALS.

*Doric.**Ionic.**Corinthian.**Composite.*

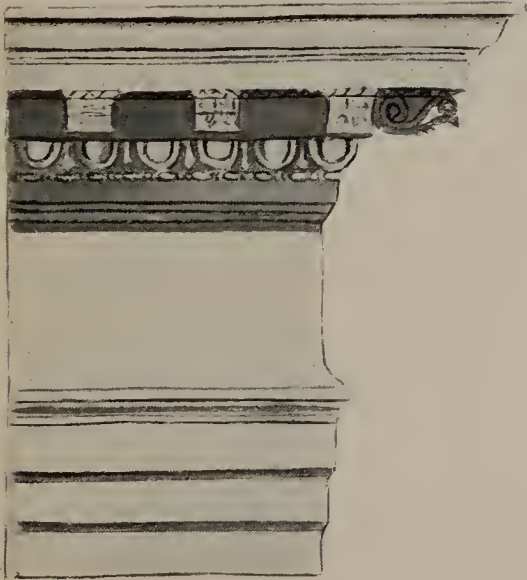
ENTABLATURES.



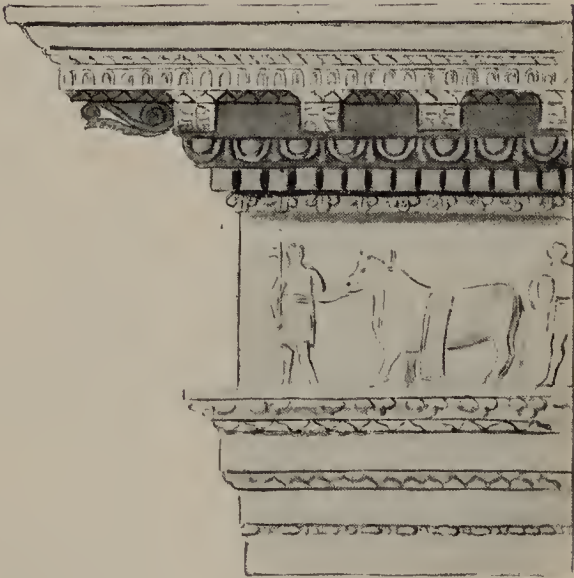
Doric.



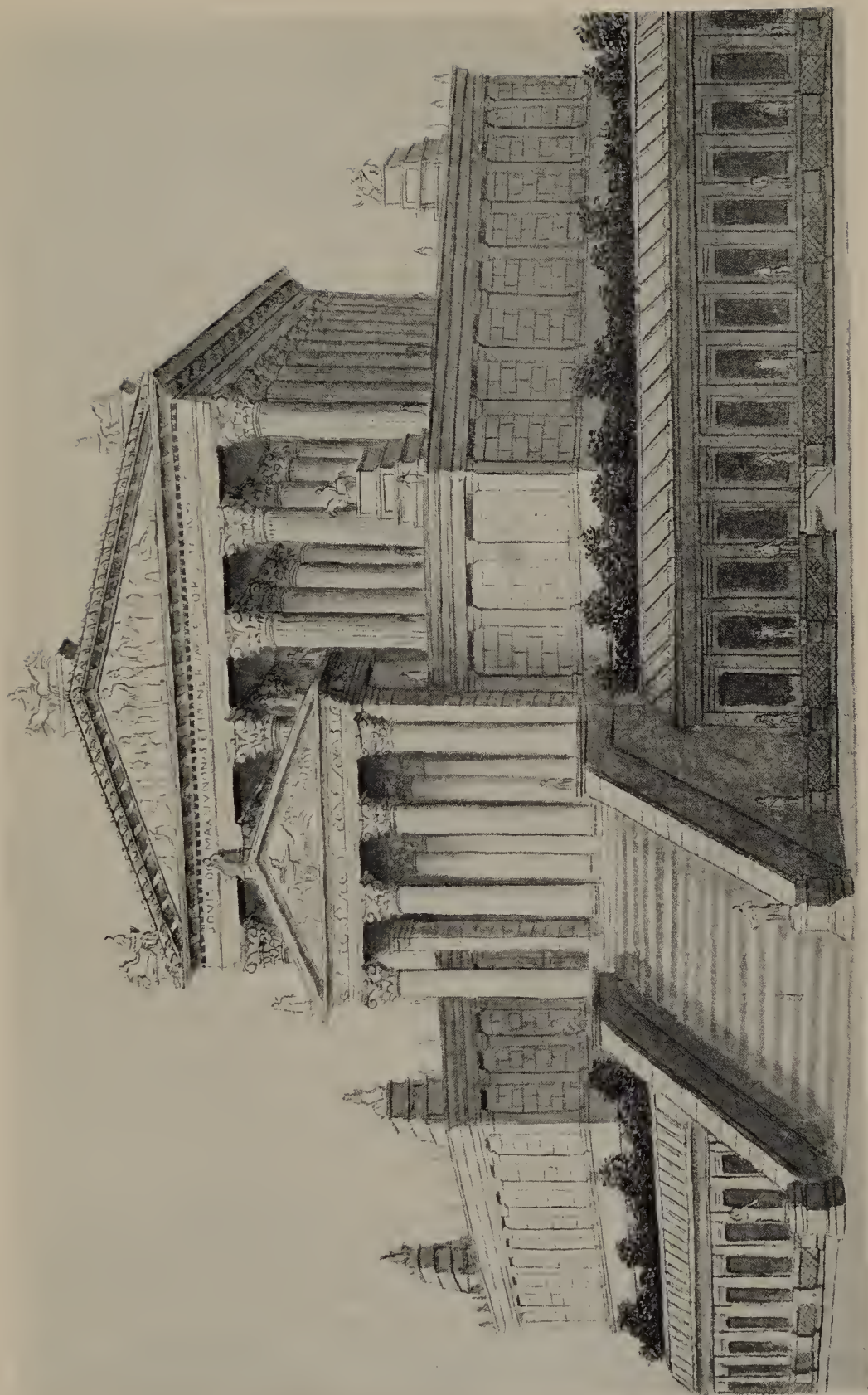
Ionic.



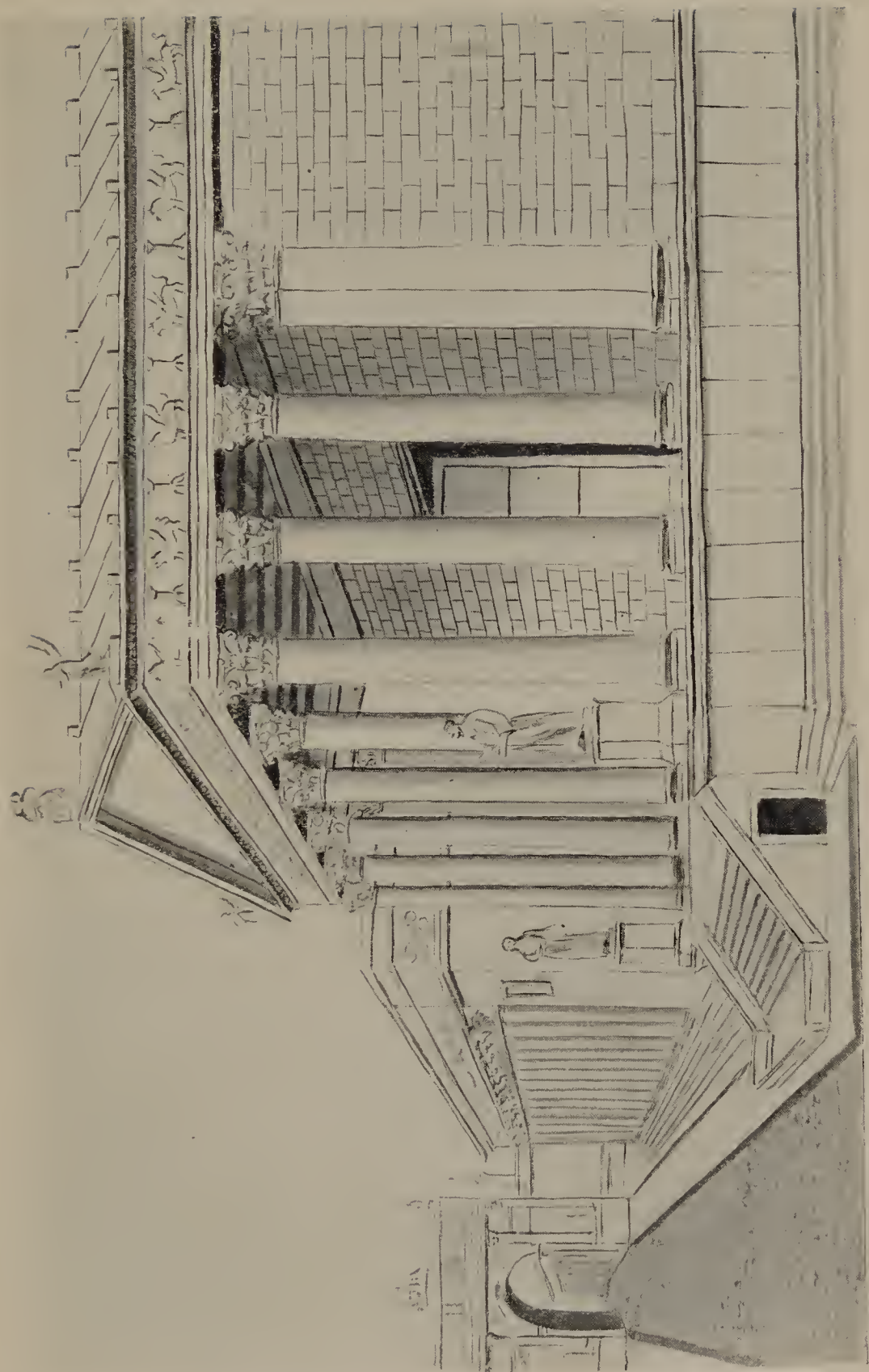
Corinthian.



Composite.



Temple of Jupiter, Capitolineus. B.C. 80-62.



Temple of Antoninus and Faustina. A.D. 142.

The second stage, also called the "Incipientis" or Initial, inaugurated the establishment of classic Roman art, which emancipated from the tutorship of the Etruscan but retaining some of its rules and later some of those of the Greeks, in a modified form, added to them the products of Roman invention amalgamated the whole and assumed the character of a national architecture. Among the edifices of this period may be cited the Temples of Saturn and of Castor and Pollux in the Forum Romanum, the ruins of the first named being those of a later reconstruction and those of the second, it is affirmed, of the original building, and the Temples of the Dea Matuta and of Fortune in the Forum Boarium, now known as the Piazza Bocca della Verità, both the latter in a relatively good state of preservation. These ruins reveal a marked evolution and a real progress in Roman architecture, but not as yet its full development.

With the third, the Aetas Aurea or Golden Age, Roman Art as well as power had attained their zenith. An accurate list alone, if it were possible to compile it, of the superb creations of this era of the vast Roman Empire would cover several pages and any attempt at a description of them, were it feasible, many volumes. Among the principal of these buildings of which we have some records and remains in Rome may be noted the following. The Basilicæ Aemilia and Julia, the Rostræ Julia and Flavia, the Curia and Comitium, the Arches of Augustus, Tiberius and Septimius, the last being the sole one of the three standing now, in the Roman Forum. The magnificent Palaces of the Patricians and Emperors on the Palatine, as for example, the Domi Clodia, Hortensia, Scauri, Augusti, Tiberii, Caligulæ, Flavia, Septimia, etc., of which a few shattered and scattered vestiges barely denote the former site or which have vanished altogether. The vast and splendid Flavian, Trajan and Antonine Baths.

The Temples of Mars, Ultor of the Forum Augusti, of Minerva of the Forum Nerva, of Neptune in the present Piazza di Pietra, the dual Temples of Venus and Rome on the Velia, of Apollo on the Palatine and of Jovis Statoris at the foot, of Concordia on the slope of the Capitol of which a few broken fragments remain, of Jovis

Optimus Maximus, the Metropolitan Temple or Cathedral of Rome, on the Capitol, entirely perished, the Panthæum, the best preserved of all, &c. The grand Mausoleums of Augustus and Hadrianus and those of C. M. Crassia on the Via Appia, of the Valerii on the Via Latina and of the Plautii on the Via Tiburtina. The magnificent Honorary Columns of Trajan and Aurelius, the Flavian Amphitheatre, the Theatres of Pompeius, Balbus and Marcellus, the ruins of the last being the only one still existing. The Arches of Titus and Trajan, the latter of the Forum Trajani or Ulpianum having disappeared completely. The Æmilian and Aelian Bridges and the extensive and beautiful Villas of Rome and its environs, an assemblage of artistic and costly edifices surrounded by gardens and orchards, such as those of Lucullus, Cæsar, Cicero, Sallustius, Mæcenatus, Quintilii, &c., &c., and above all the Queen of Villas, that of Hadrian at Tivoli.

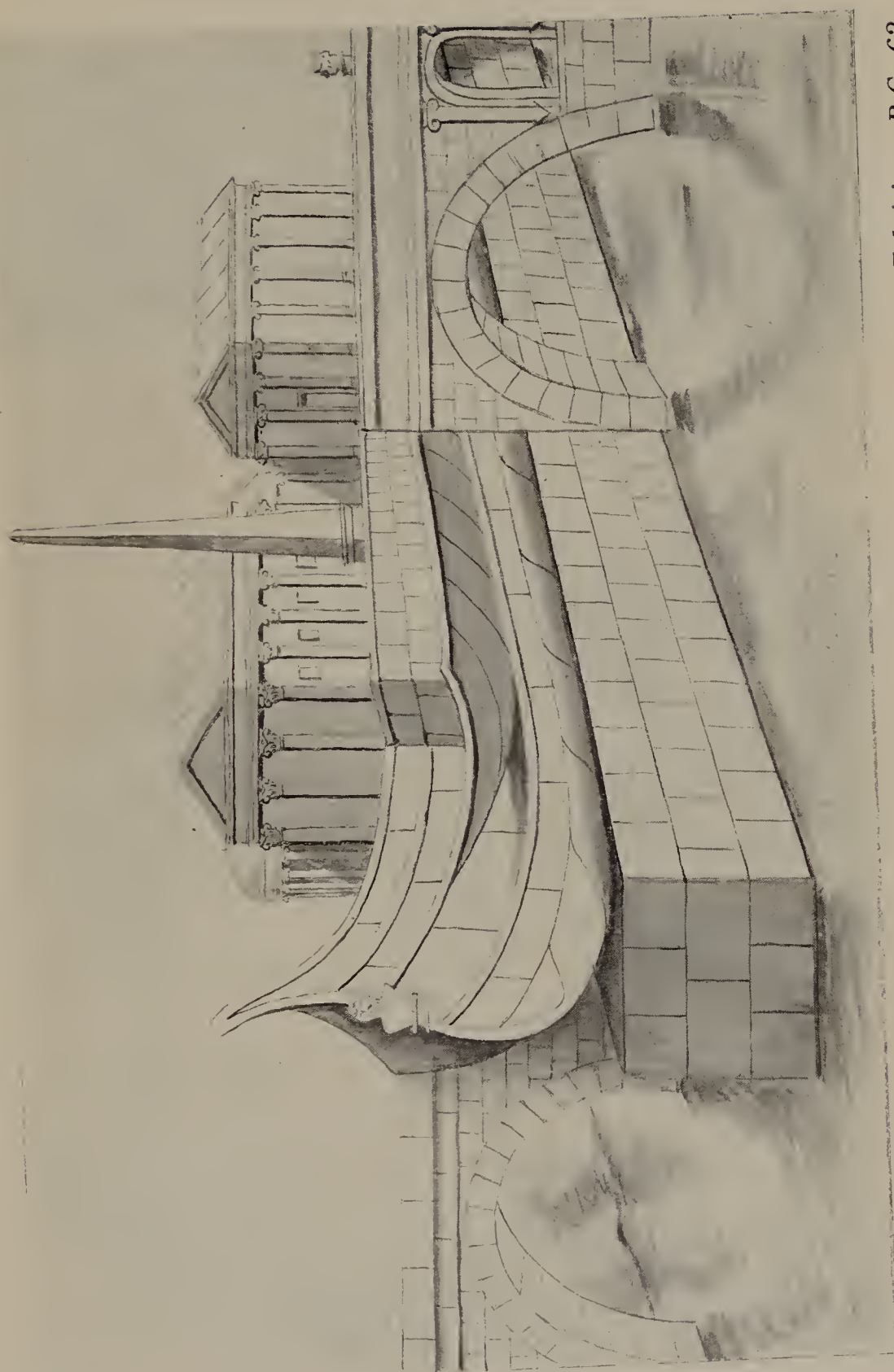
We have limited ourselves to this incomplete enumeration (for the list is not exhausted even of those whose vestiges still exist) of the edifices of the Aetas Aurea of the Seven-hilled Metropolis and its environs alone, but it must be borne in mind that the Romans as they acquired and consolidated by policy and conquest their dominion first over their own Peninsula and then over the best parts of the three Continents, not only imposed their laws wherever their power extended but also created grand Monuments, sumptuous edifices and eminently useful constructions in the rest of Italy, in Europe, Asia and Africa, wherefore no architectural school or style can lay claim equally even approximately, with the classic Roman to a similar all-embracing and durable predominance among civilized and uncivilized peoples.

A predominance that has long outlived the power and existence of the Roman State and which can only be compared for influence and longevity to her "Codex" or Code of Laws, as is manifest even in our times that bare the impress of her architecture as the generally recognised type and model of the Classic and of her legislature as the basis of all others contemporary or postemporary.

The fourth period produced nothing very remarkable for decadence had set in with startling abruptness and thoroughness, with the possible exceptions of the constructions of Diocletianus (A.D.



Section of the Forum Boarium. (Reconstruction).

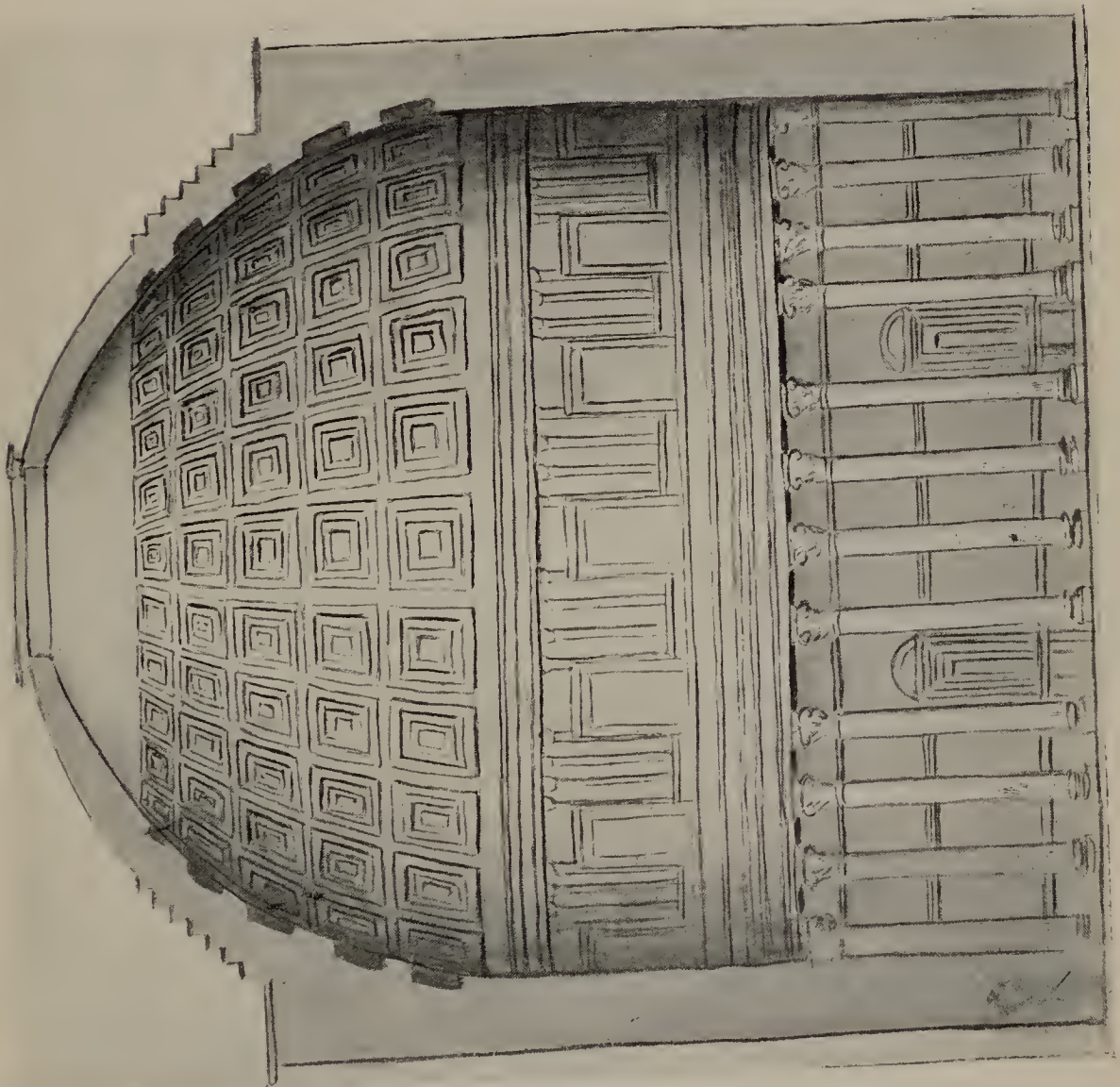


Pons Cestius. B.C. 46.

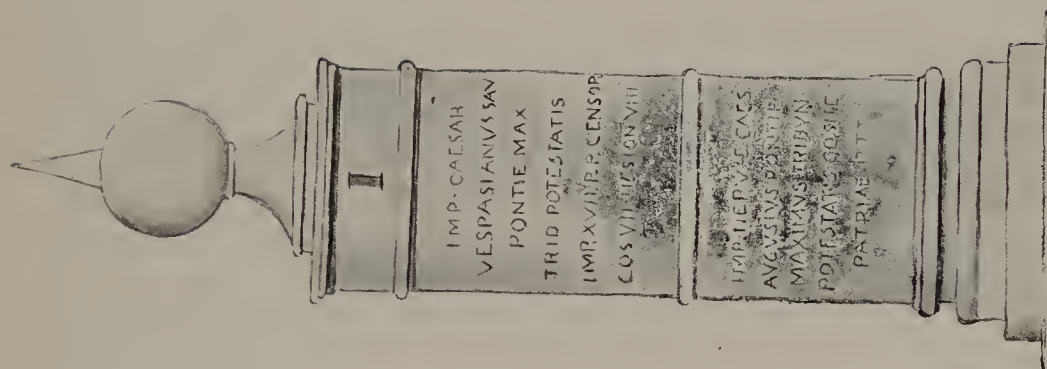
Insula Tiberinae, (Tiberine Isle.) B.C. 290. Pons Fabricius. B.C. 62.



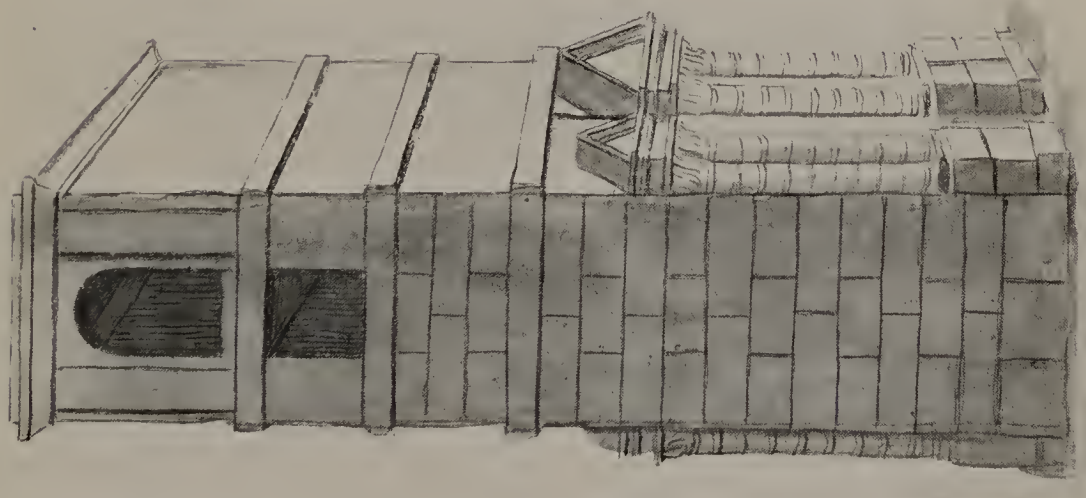
Caryatide.



Roman Cupola (Interior).



*Golden Milestone
(Milliareum Aureum).
A.D. 28.*



Section of Aqueduct. A.D. 52.

284-305) and of Maxentius (A.D. 306-312) who might be styled in a way the Renaissance Monarchs of their times. The former was the builder of two great edifices, the immense Diocletian Baths, now the National Museum, on the Viminal Hill, twice the size of the famous Antonine Bathing Establishment but closely resembling the latter in plan and arrangements, and his vast Palace at Spalatro in Dalmatia.

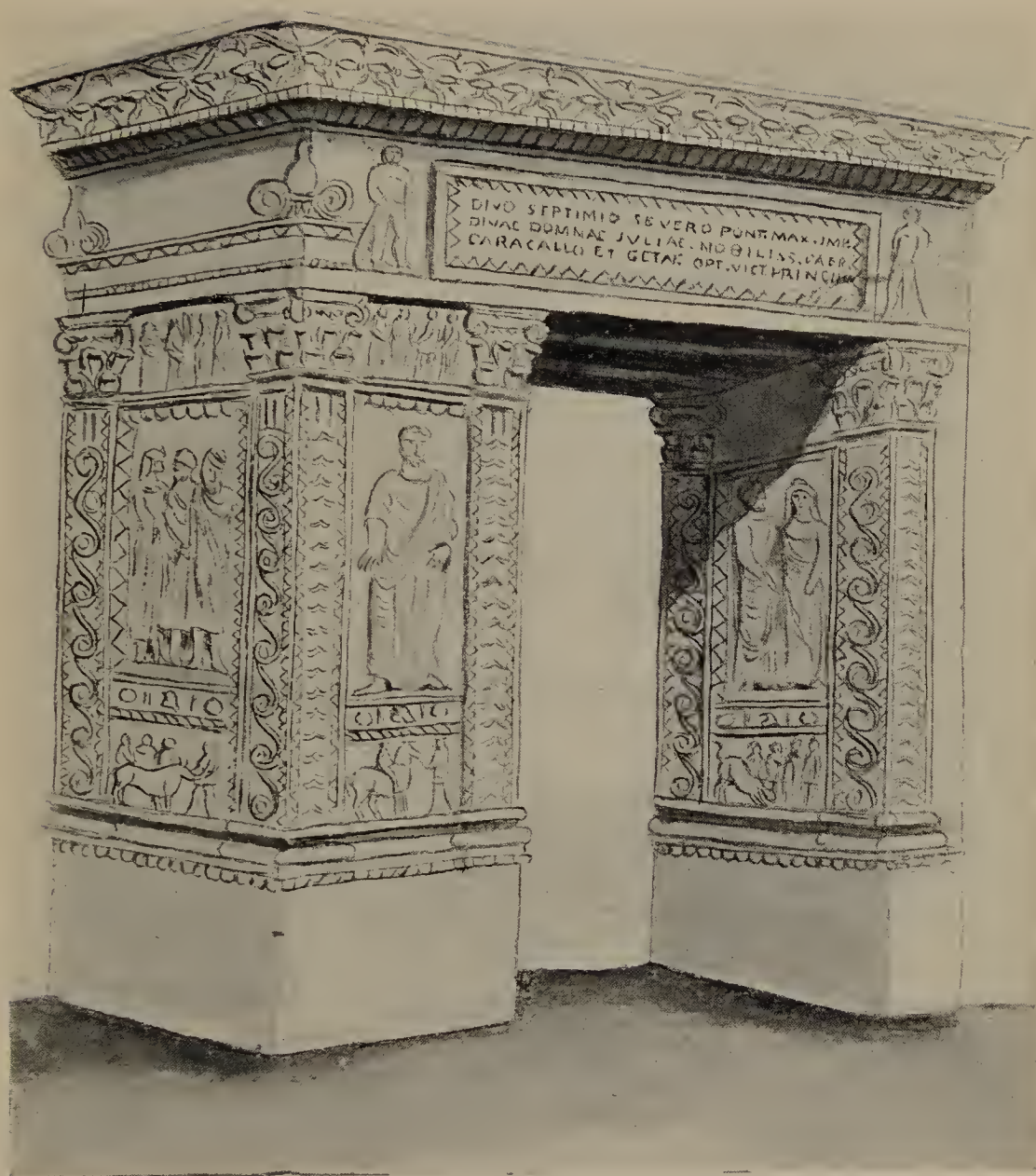
The second Sovereign has likewise to his credit two important buildings besides other minor ones, the Basilica Maxentia in the Roman Forum and the Circustadium Maxentii to the left of the Via Appia close to the Mausoleum of C.M. Crassia. The ruins of three vaults of this Basilica and the Corinthian Column belonging to it (removed and re-erected with a bronze statue of the Madonna on the summit by Pope Paul V. (A.D. 1613) in the Square of Sta. Maria Maggiore in Rome), abundantly testify to its excellent architecture. The traces and vestiges of the Circustadium are so scant and wrecked that no opinion can be formed by them, but the records concerning this structure are highly favourable.

With regard to the other erections of this period, of which very few specimens survive, they may be broadly divided into three categories. The authentic works of the Cadentis, destitute of artistic qualities, of which the Arch of Gallienus (A.D. 258-260) now commonly known as the "Arco di San Vito" on the Esquiline Hill is an example; those which consist of piecing together the superior works of former generations of which the Arch of Constantine is an instance, mainly composed of the spoils of Trajan's and Aurelian's creations supplemented by the manifestly inferior additions of the Decadent age, and finally those which were not in any sense productions of the times but merely plundered bona fide relics of an earlier period such as the so-called Column of Phoca (A.D. 602-610) re-erected to this Emperor, which some opine to have belonged to the Templum Jovis Statoris, others to the Templum Concordiæ and others again to some equally obliterated and as yet unidentified edifice of Diocletian. It is true, however, that by this time the seat of the Empire had been transferred to Constantinople and the real Roman State had long before come to its end.

There were, broadly speaking, five classes of Roman Temples, as regards shape. The nearly quadrangular, consisting of two sections, the Porticus in front and the Cella behind of which the Temple of Antoninus and Faustina is a specimen, the circular like the Templet of the Dea Matuta, the incompletely circular of two parts, the Porticus to the fore and the Cella three fourths round and one fourth flat meeting the Porticus of which the Panthæum is an example, the so-called "Augustea" an oblong rectangular, of which the Aedes Fortuna might give some approximate idea though there are no typical ones of this class surviving, and lastly the Dual Temples, that is, two distinct buildings dedicated to two different Deities with separate entrances on opposite sides but united back to back under one dome of which the Temples of Venus Felix and Roma Aeterna on the Velia would have furnished an excellent example if they had not nearly vanished, except for the wrecked apse.

Their Tombs may be similarly divided into five categories, the nearly quadrangular like the Tomb of Bibulus, the circular like that of the Plautii, the upright Tombs of greater height than breadth or depth such as those we see of Seneca and Marianus, the pyramidal variety like that of C. Cestius and finally those with a square base surmounted by successive round tiers progressively diminishing in circumference as they proceed upwards like the Augustan Mausoleum. With regard to their public and private palaces all shapes were adopted except the elliptical and circular while for the edifices destined for spectacular purposes on the contrary, the above two forms were invariably preferred.

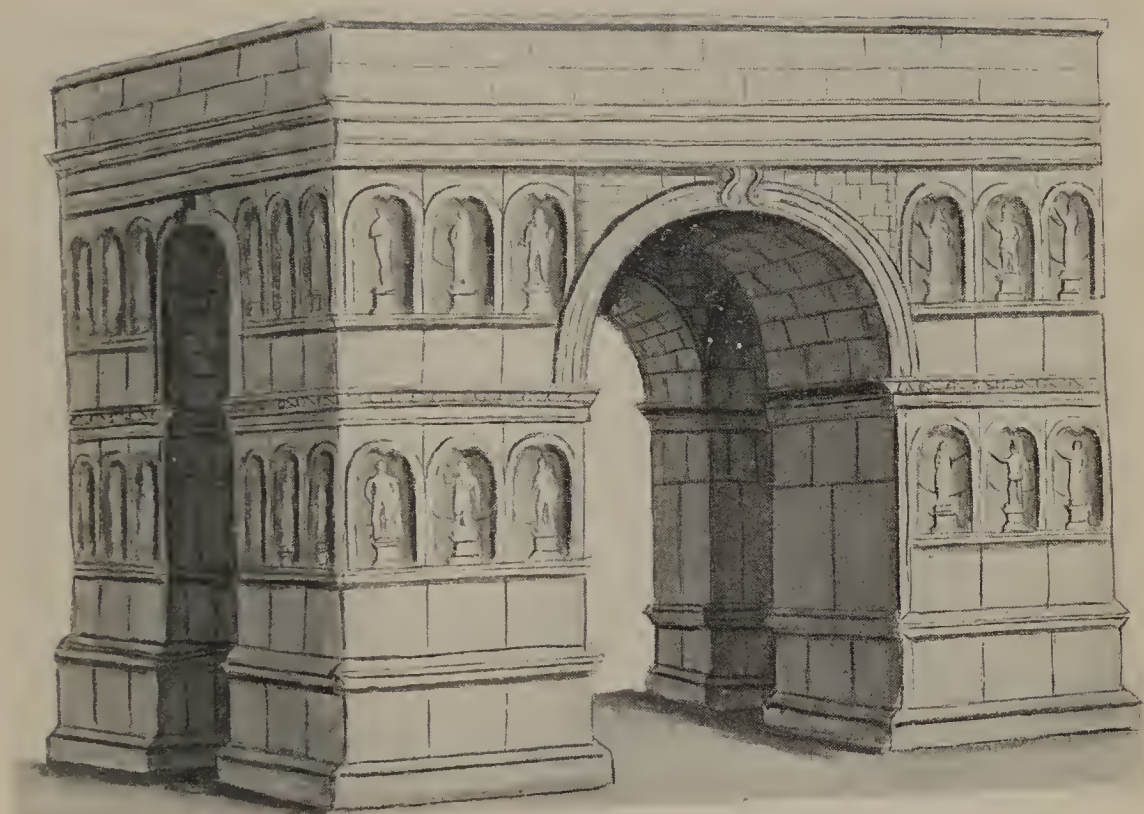
As regards the classification of the Roman buildings relatively to the disposition and number of their columns what was mentioned on page 51 for the Greek is in part applicable with the following additions, of the "Tetrastyle," (Four-columned), "Decastyle" (Ten-Columned) the "Polystyle" (Many-Columned) the "Monopterus" (One-winged) and the "Dipterus" (Two-Winged) both varieties of the round Temple. Besides this the more important Roman buildings differed from the Greek in being composed of more than one storey, each tier decorated by a colonnade of a different Order.



Arch of Septimius. (Argentariorum), Rome. A.D. 103.



Arch of Septimius. Forum Romanum, Rome. A.D. 104.



*Arch of Janus Quadrifrons (Compitus), Forum Boarium, Rome.
Reconstruction.*

Let us touch broadly and briefly on the distinctive features and respective achievements of the classic architecture of those peoples of which we possess some documentary records and material ruins that may enable us to form and establish an opinion in respect to their relative qualities and merits. These are the Egyptians, the Etruscans, the Greeks and the Romans.

With reference to the first this art may be defined as that of an altogether heterogeneous race and style, characterized by massiveness, vastness, individuality, and a certain sombre grandeur, but lacking in our estimation in the attributes of life, variety, elegance and grace. It is natural, however, that this architectonic type should not appeal to us in the same manner and degree as those of the other three kindred and neighbouring peoples of our continent.

Turning to the Etruscans, undoubtedly an ingenious and capable, and in so many directions, a preeminently artistic race, it may be said of their architecture that it possessed solidity, an unadorned simple grace and an accuracy of execution, but also on the other hand a primitiveness and an extreme plainness and aridity, which while rendering it especially well fitted above all for the primarily useful constructions, as already mentioned, did not make it equally suitable for those edifices of a grander scale, finer work and more delicate and ornate character. Its practical adoption was, therefore, as aforesaid, limited chiefly to one category of construction. If the Etruscans had managed to retain their independence as an autonomous people for a longer period, it is possible that their works in this line would have reached a far greater development but their absorption by the Roman Kingdom definitely put a stop to any further progress in a separate school of this art on their part, and we may consequently consider their architecture as uncompleted and judge it on the merits of its first stages, its infancy and its youth, not from its prime and age which it never attained.

The Greeks, constitutionally lovers above all of beauty of the softer type, produced an architecture (the infallible hall-mark and touchstone of a people's idiosyncrasies) that was distinguished for fineness, grace and loveliness but not in an equal degree by the qualities of majesty, magnitude and variety. It is worthy of note

that their creations in this art were chiefly confined to one Order, their Doric, and to one class of edifices, their Temples, and, much later, to what might be termed the other branch of this class, their Tombs.

The Doric, and much less frequently the Ionic, were used exclusively for each structure and not concurrently with other Orders partly because their buildings were as a rule one-storied. The Romans on the contrary very rarely adopted their Doric Order alone and when in conjunction with the others in their one, two, three, four or more tiered edifices, it was reserved for the support and decoration of the first or ground storey for which this robust Order was peculiarly adapted, while the columns of the other more elegant and ornate Orders were successively assigned to the higher and lighter tiers of a building.

This rule of gradation established by the Romans and followed by others even to our day was to place the Etruscan or the Roman Doric as aforesaid at the first storey, the Ionic the second, the Roman Corinthian the third and the Composite the fourth. This harmonious, varied and suitable arrangement indicated that the Romans were gifted with a correct and æsthetic conception of art and marked a decided progress in it. The Etruscan elementary semi-circular vault and their plain Ordo Rectus were respectively transformed into the artistic Roman Arch and Roman Doric and the Greek Ionic and Corinthian Orders were substituted by their Roman counterparts, nowise inferior with regard to the Ionic and superior with regard to the Corinthian. To these the Romans added another Order, a product of their own, the Composite, that on account of its stately and rich aspect was entitled the "King of Columns" or the "Triumphal Column." By the general consensus of competent opinion the Romans surpassed the Greeks in respect to the type of their Corinthian and also, as we know, by its far more general application, and this Order with the Composite figure in all their more important edifices, these two majestic, rich and elegant Orders incarnating as it were Roman power and genius.

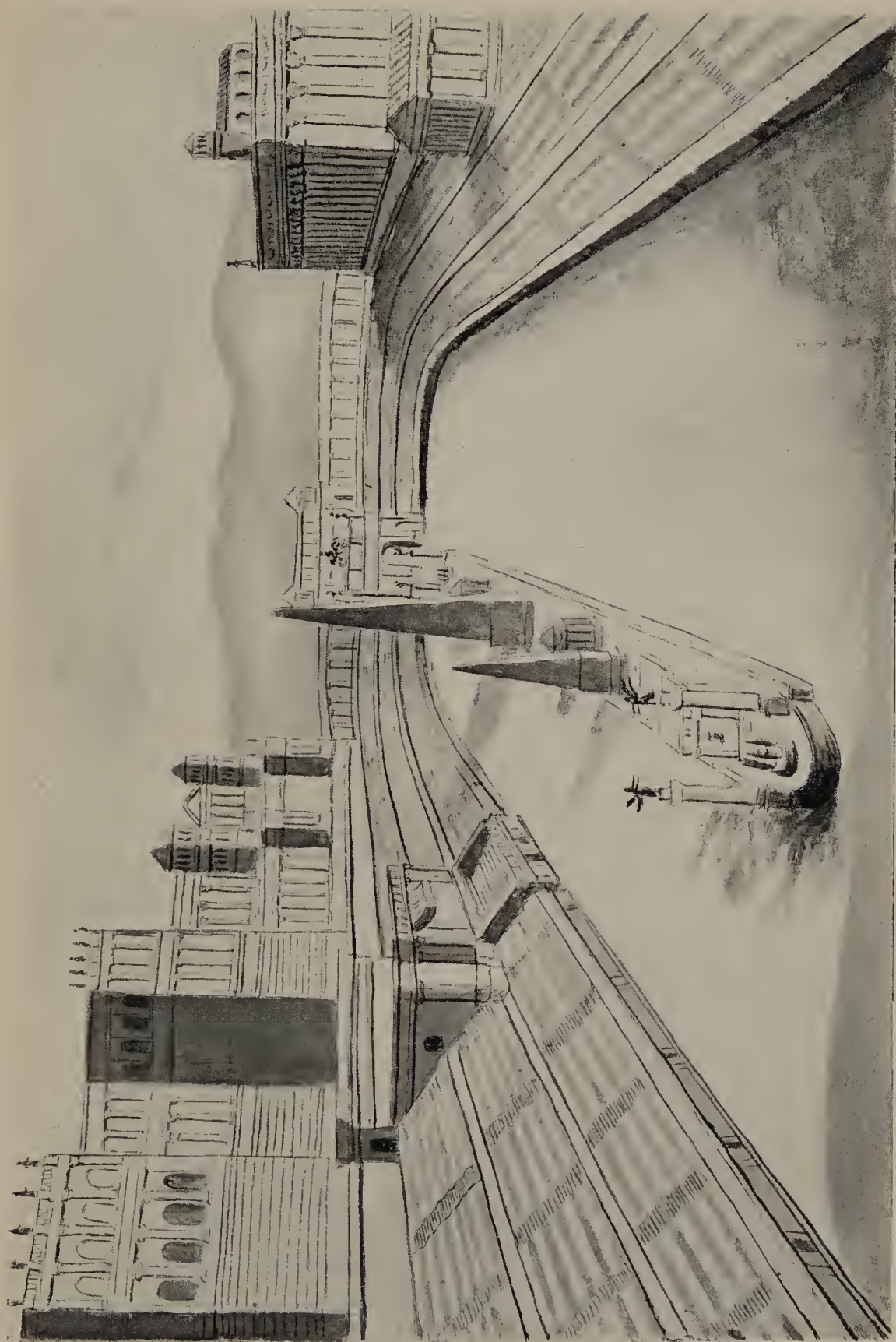
In the decorative branch of architecture too the Romans admittedly excelled the others. Their entablatures for instance were not



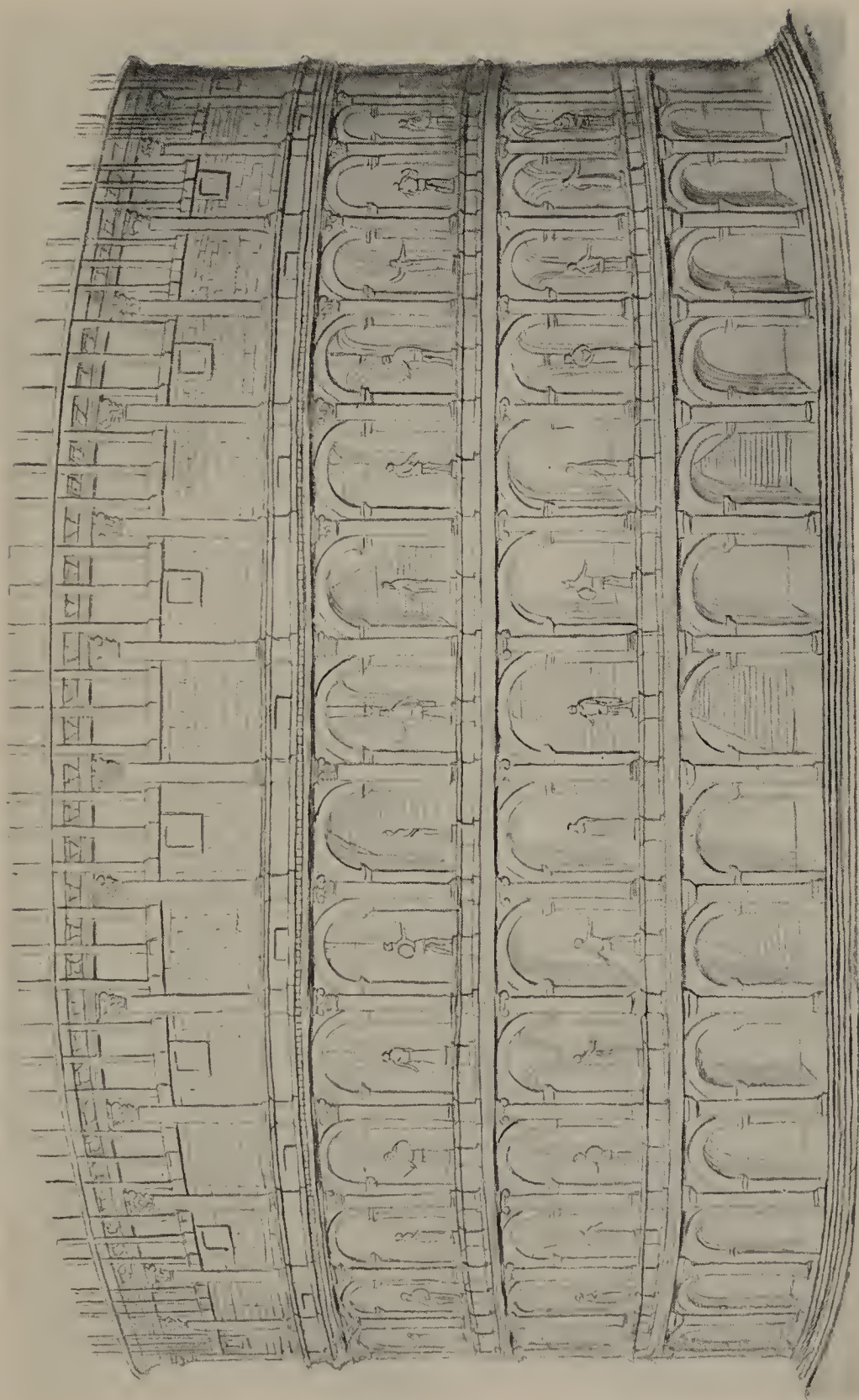
Rostral Column of Duilius, Forum Romanum. B.C. 260.



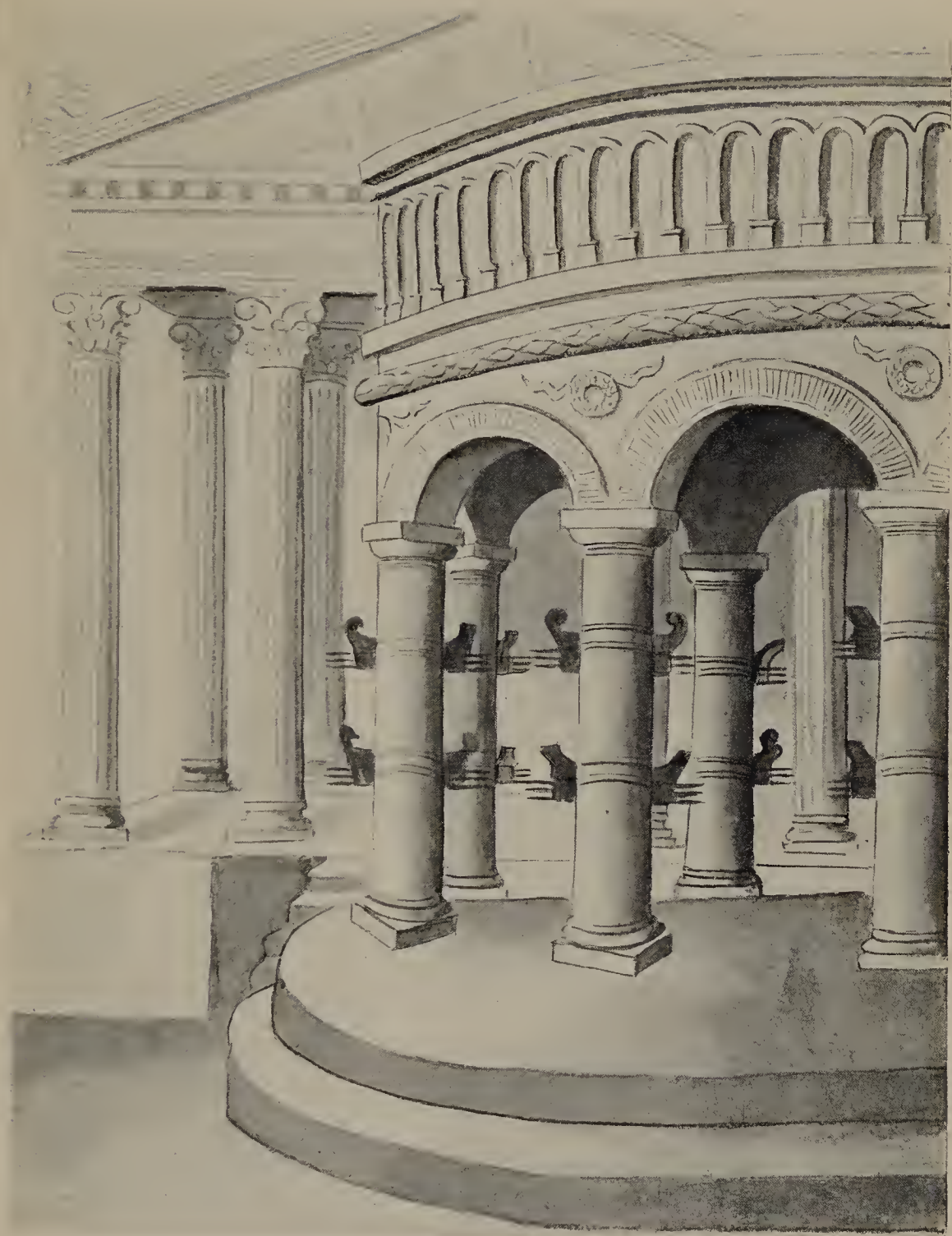
Column of Trajan. A.D. 114. Forum Ulpianum.



Circus Maximus. (Reconstruction).



Flavian Amphitheatre, Rome. (Colosseum) A.D. 80. (Reconstruction).



Rostra. (Reconstruction).

only more richly and tastily adorned but their mouldings and dimensions were more artistically proportioned, and the rule whereby to each Order was assigned a special canonical entablature with its distinct features was much more regularly and strictly applied by the Romans in their architecture than by the others. Their other contributions to this Art were the semicircular vault and the hemispherical cupola with their frequently highly ornamented soffit, their pedestals and their scamillus or lateral parapet flanking the flight of steps. The best surviving specimen of the classic Roman cupola is held to be that of the Panthæum in the Eternal City.

The Roman doors and windows differed from the Greek in that the former adopted sometimes the trapezoidal shape (of Etruscan origin) and also introduced the triangular or semicircular pediment over the apertures.

If the Romans therefore originally took some of the ideas and inventions of their predecessors relatively to many architectonic members, the latter had done likewise with regard to other peoples who had preceded them, in all cases a very natural occurrence and not in any sense detracting from the merits of their several styles, so long as each style was not a purely servile imitation without either addition or modification. In consequence if we admit the claims of the Etruscans and Greeks to be the initiators of what is termed the ancient classic architecture of our continent we must also acknowledge that the Romans were its perfecters, its amplifiers as well as its co-inventors. Only in respect to their religious structures, that is their Temples and Tombs, can the Greeks be said to rival the Romans, and as regards the first the general adoption of the former people of their plainer and stouter Doric placed them at a disadvantage relatively to the Romans who favored the taller, slenderer more graceful and ornate Corinthian and Composite on all occasions where wealth of decoration and elegant stateliness were called for.

There are some persons to whom the "Simple" appeals so strongly and universally, and no doubt it possesses a great charm in its place, that they prefer this quality even to the partial suppression or total exclusion of all others, relegated to an accessory

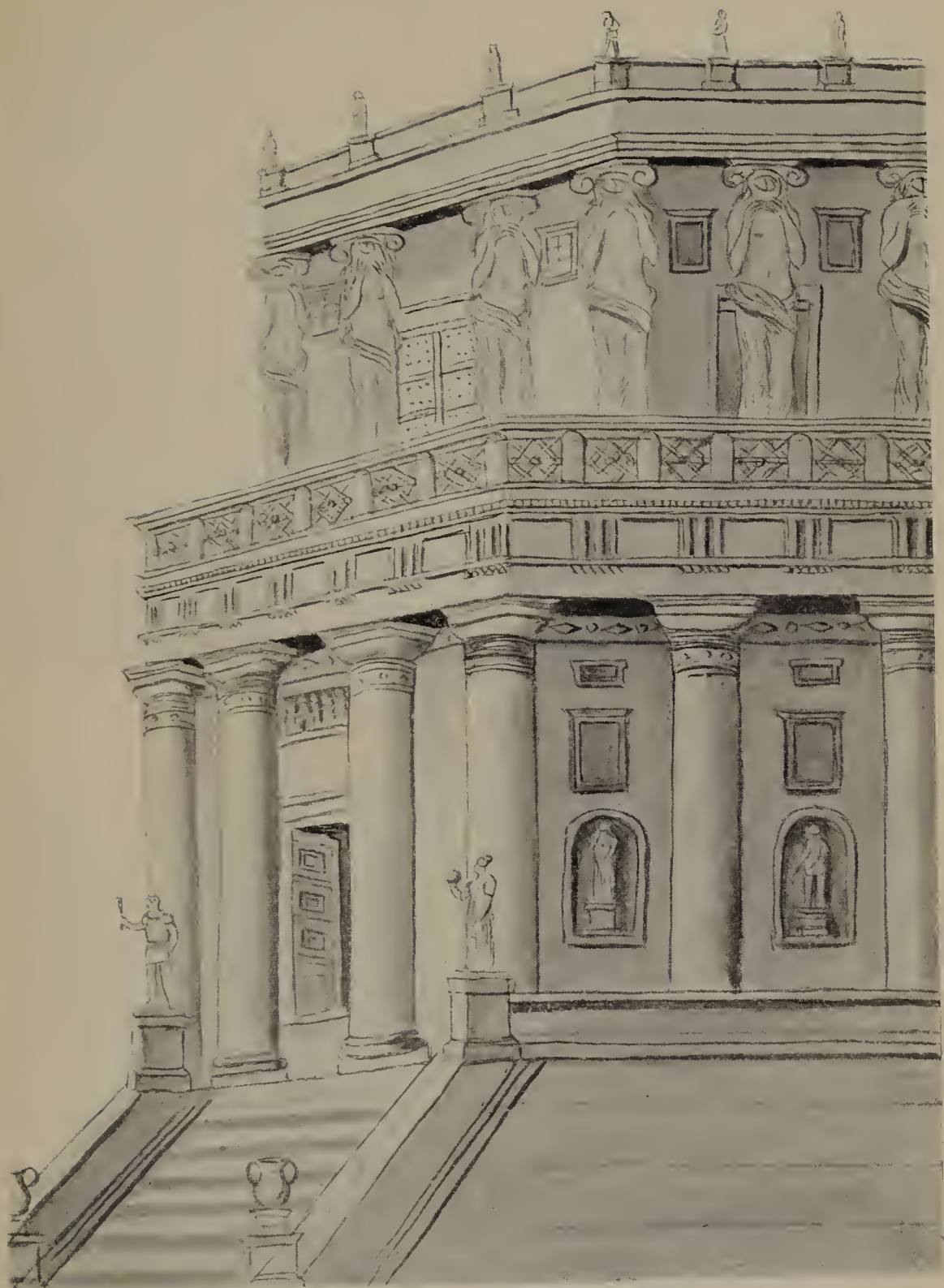
and secondary post even in those cases where "simplicity" cannot be considered by any means as the first or even appropriate feature required.

The Greek Monumental Sepulchres were unquestionably of exquisite architecture, possibly unsurpassable, but the greatest and finest of them so far as we know, were those of Mausolus and Ecatomo and these were not erected in Greece proper, were not of the pure Greek school alone, but a combination of the Egyptian and Greek styles, and were not constructed during the Akmaik period when Greek Art was at its prime in Greece, and moreover the Roman Mausoleums of Augustus and Hadrianus could compare not unfavorably with them.

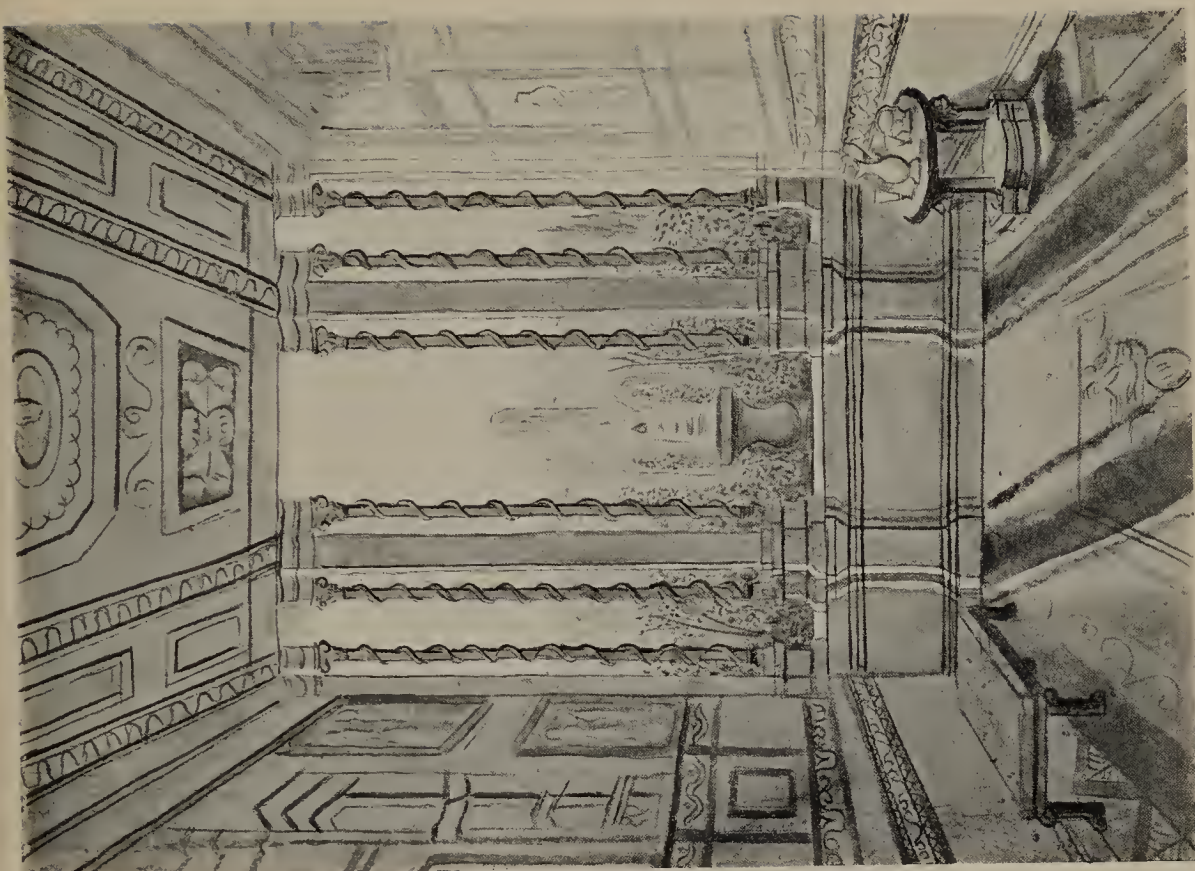
In all other classes of construction the Greeks could not compete with the Romans either because no buildings corresponding with those of the latter existed or because if there were any such, they presented a manifest inferiority. The small Greek Odæum and Stadium could not certainly be compared to the stupendous Roman Amphitheatres, Theatres and Circuses. The superb isolated memorial Arches and Columns of the Romans do not seem to have had any counterparts in Greece, there were indeed, instances of monumental works of this description there, but erected by the Romans, therefore not Greek.

To the vast and magnificent Palaces, Villas and Baths of Rome and of other cities subject to her sway, the Greeks could offer no parallel and as regards those constructions which while not wanting in artistic design and execution, were masterpieces of engineering excellence intended for practically useful purposes entirely, such as bridges, viaducts, aqueducts, cloacæ and roads, the Romans were universally acknowledged as past masters without the shadow of a rival.

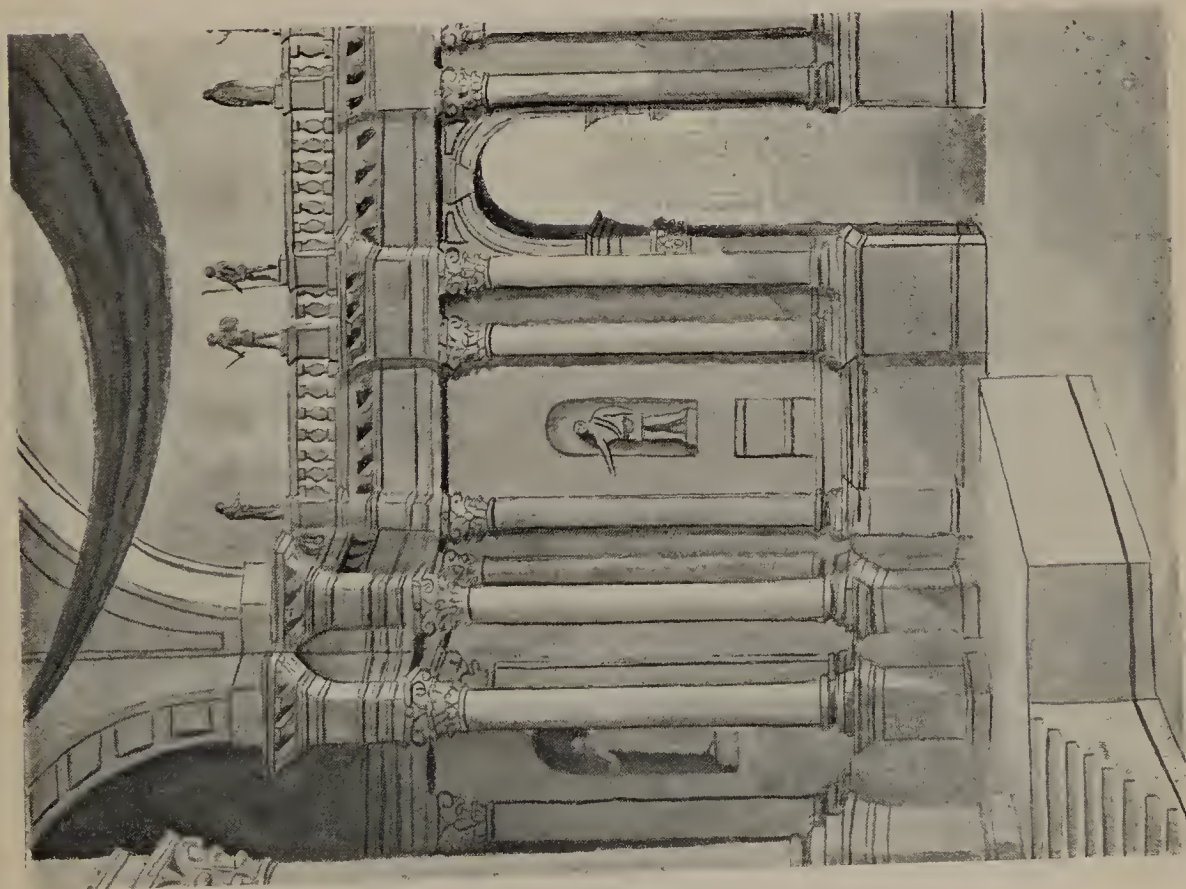
The contention urged by some that there can be no real comparison between the achievements of these two elect races because there is no analogy or proportion between their respective conditions, that is, their sphere of influence, extent of dominion and resources, is not if examined logically well founded for two reasons, firstly because we are not dealing with the works of Greece proper



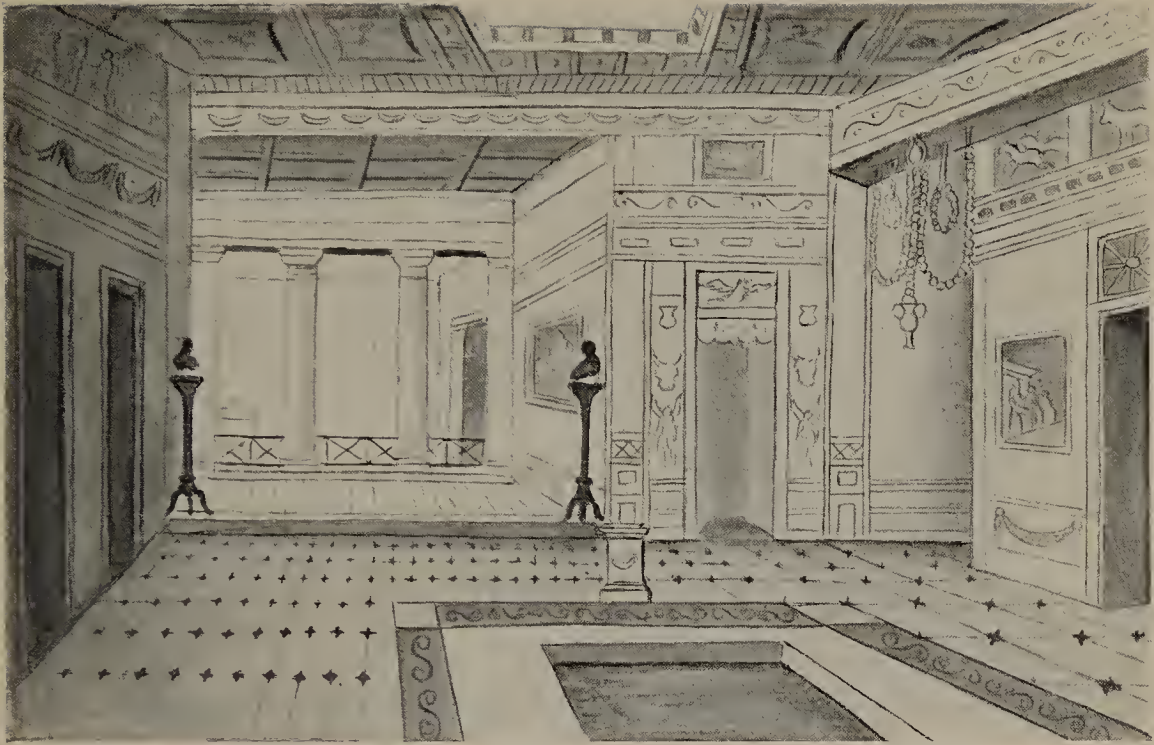
Patrician Domus (Exterior).



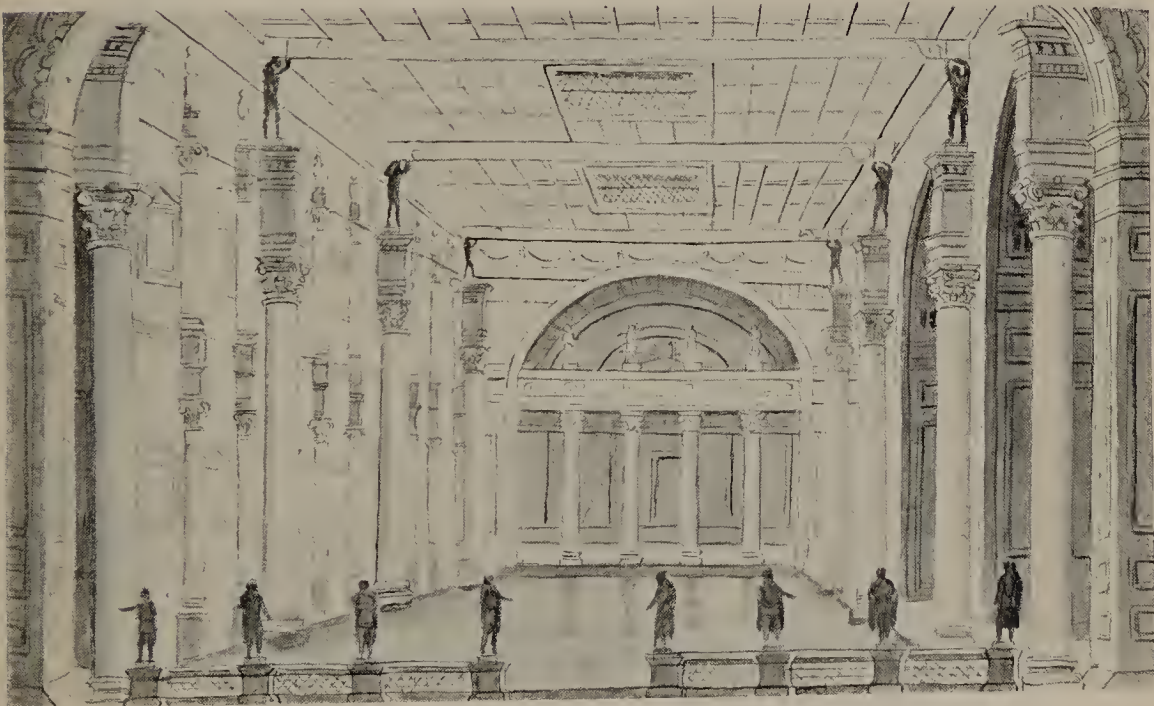
Apartment of Patrician Domus.



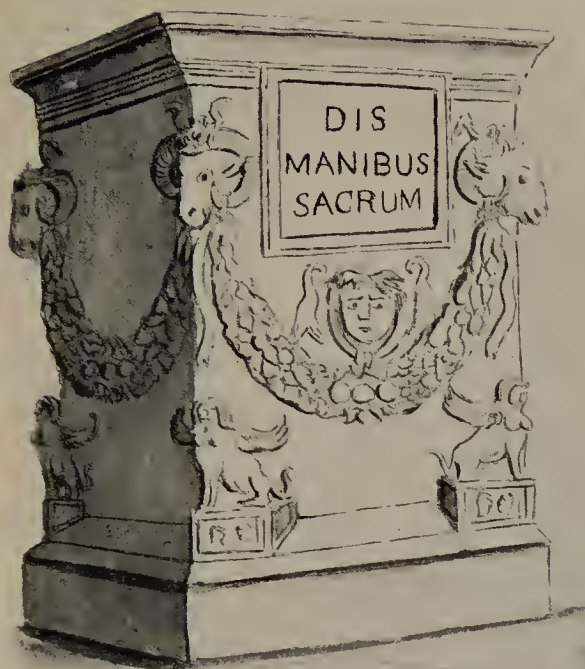
Basilica Hall (Interior).



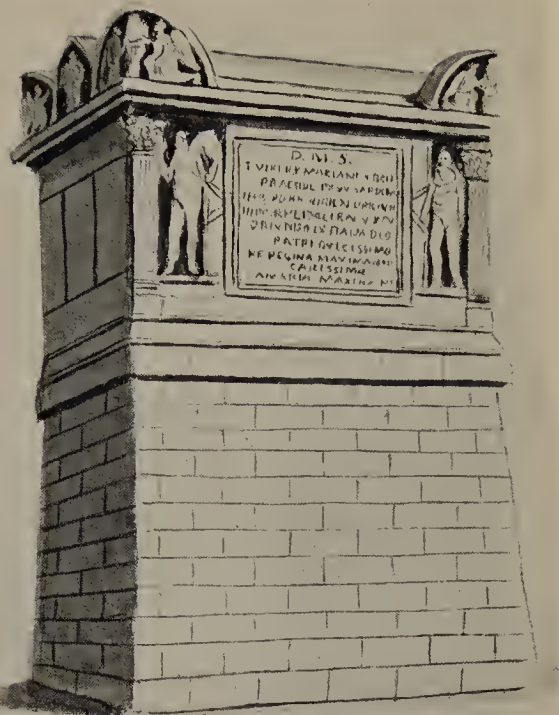
Interior of a Roman Domus with the Impluvium in the Atrium.



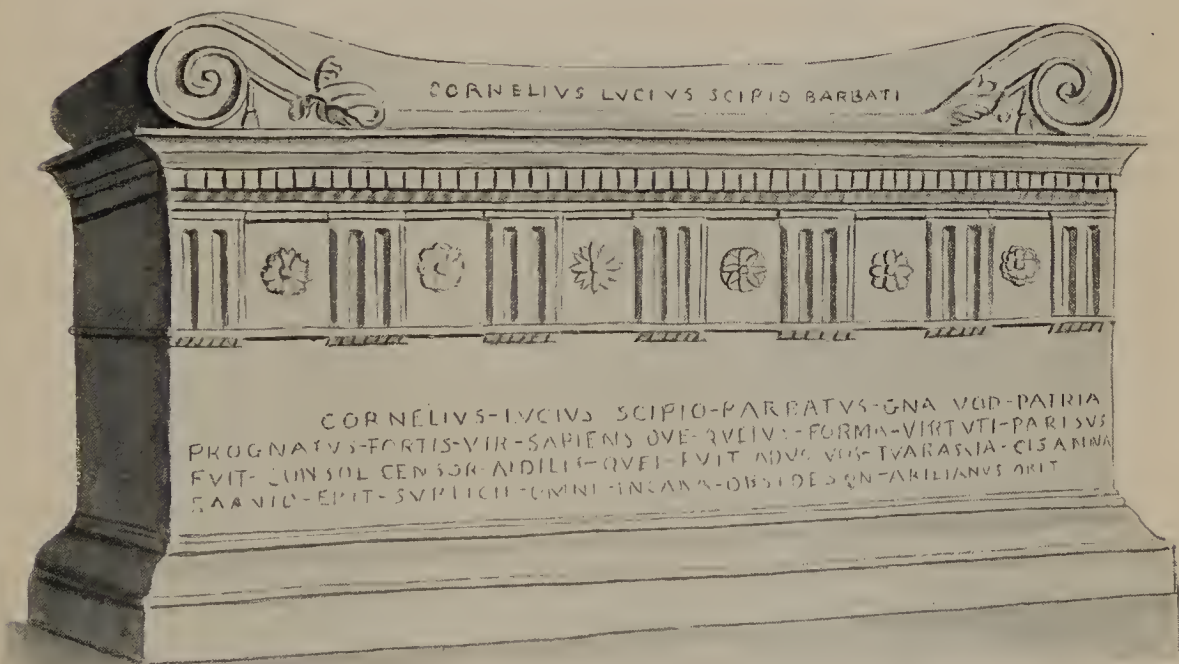
Interior of Antonine Baths (Frigidarium). A.D. 198-222.



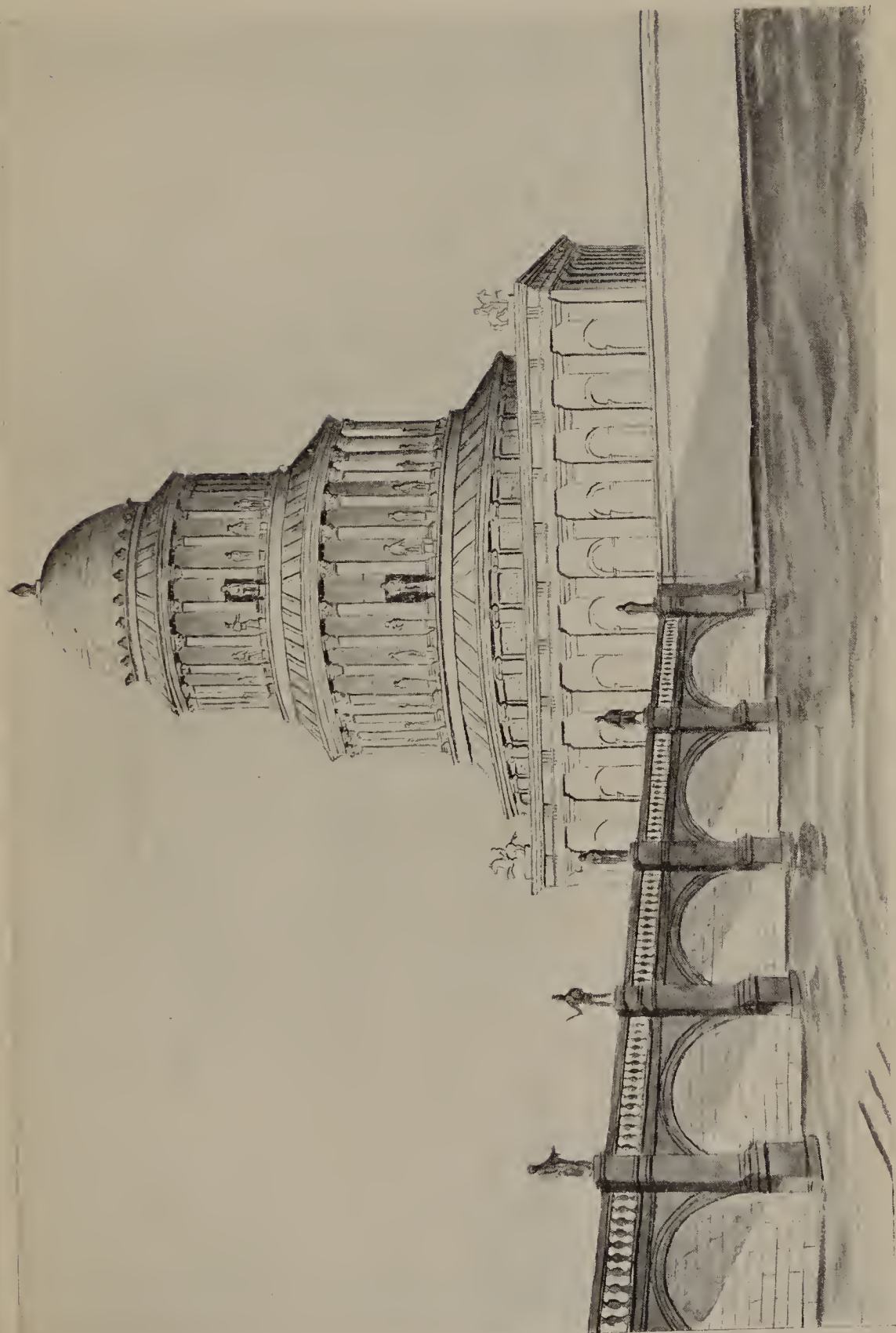
Cippus.



Sepulcrum Mariani via Cassia.



*Sarcophagus of Cornelius Lucius Scipio Barbatus.
Hypogaeum Scipionum (B.C. 280), via Appia, Rome.*



Mausoleum of Hadrian (A.D. 136), Pons Ælius. Rome.

alone but of those of Great Greece as well, that is of her colonies in Southern Italy, Sicily and Asia Minor, where numerous forests and quarries furnished an abundance of splendid material, and this inclusive architectural area is by no means a restricted one, and secondly because even if we admit that her constructions had unavoidably to be on a smaller scale and less numerous, it need not necessarily have followed that they should also be insignificant or inferior in other respects to their Roman counterparts and still less that some, as for instance the isolated Monumental Columns and Arches, should not exist at all in Greece and her dependencies, the obvious and true reason of their non-existence being that the Greeks had not invented them.

The cause of this difference may be rather sought and found in the diversity of character between these two famous peoples of antiquity, of which their respective architectures were the symbol and expression, the Greeks, ingenious, talented, supple, poetic and above all æsthetic, the Romans equally artistic and talented but more viril, practical, broader and therefore more versatile, stronger and vaster in their productions of this beautiful, but also most comprehensive, varied and useful Art.

In their respective sculptures too these racial traits were similarly striking. The dominating feature of the Greek creations was ideality, of the Roman reality. The statuary of the former (the highest expression of sculptural work) was ideally beautiful in lineament, members, contour, attitude and drapery but as a rule with not much life or expression and that little mostly identical in all.

The Roman statues were reproductions of real or symbolic figures, equally but differently captivating, for though some of them were necessarily not beautiful in the above sense they almost always possessed the forcible fascination of life, expression, and individuality whether they were intended to represent the lovely, the stately the intellectual, the stern or the wise.

Egyptian.

EGYPTIAN.

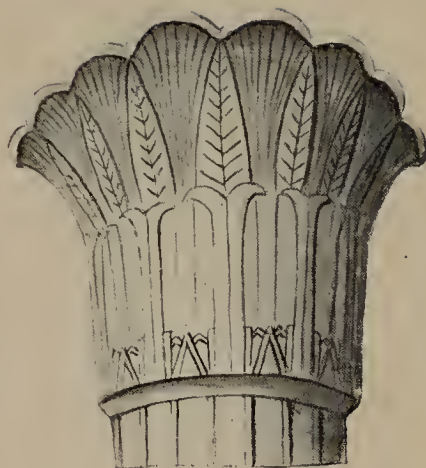
EGYPTIAN. The civilization of the inhabitants of this land dates from very remote times, roughly estimated at about 3,000 years before the advent of Christ, though some assign to it a far greater antiquity, and her architecture of an original and strongly marked character is the most ancient of which we possess some more details and positive information than is the case with those of other peoples approximately coeval.

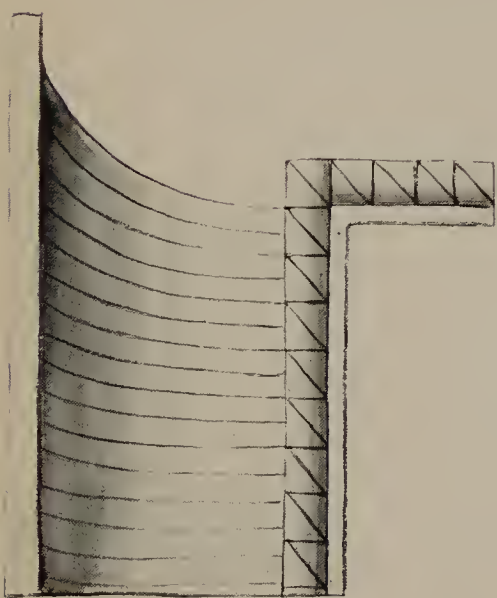
From Mena, the first recorded King of Egypt, to the conquest of the country by Alexander of Macedon, B.C. 331, thirty-one dynasties reigned successively over Egypt and during this long secular series accompanied by many vicissitudes, the Egyptians not only maintained unaltered the distinct national type of their architecture but also influenced those of other races.

Egypt is a vast, arid land, poor in forests, uniform in respect to color and soil undulations and inhabited by a people of a dark, spare physique of angular lines, and these features were naturally reproduced in all Egyptian Art, characterized by great dimensions, monotony, rigidity of profile and constraint of attitude. But besides this there was another moral and spiritual factor that operated to inspire the peculiar style of Egyptian works.

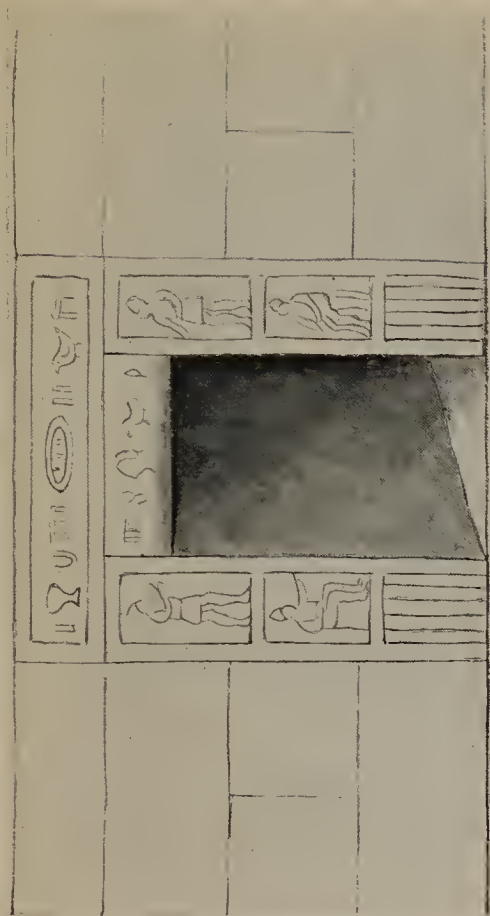
This people were firm believers in the resurrection of the dead in their own respective terrestrial envelopes, and it became therefore their duty and desire to preserve the individuality of every corpse as far as feasible intact till the day of resuscitation. In consequence two measures were resorted to in order to protect the corporeal conservation of the corpses, firstly by carefully and scientifically embalming them and secondly by placing them in Tombs calculated by their solidity and durability to defy alike the assaults of time and the still more destructive tendencies of man ; and it will be

CAPITALS.

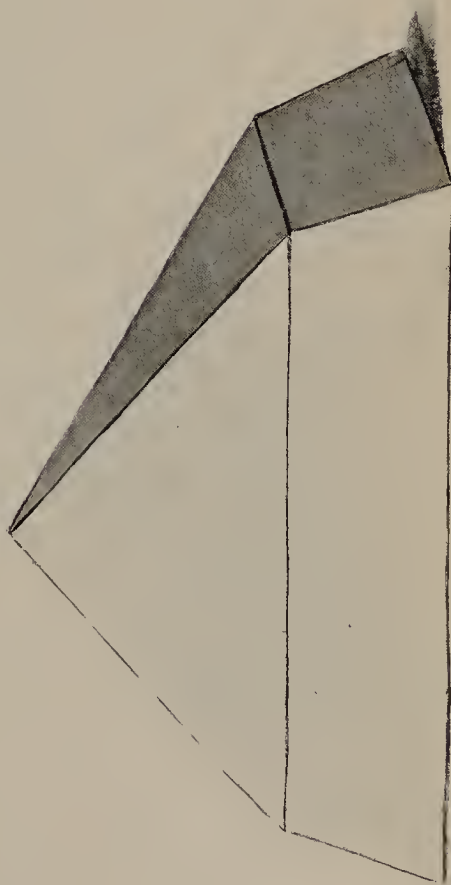
*Protodoric.**Palm.**Lotus.**Athoric.*



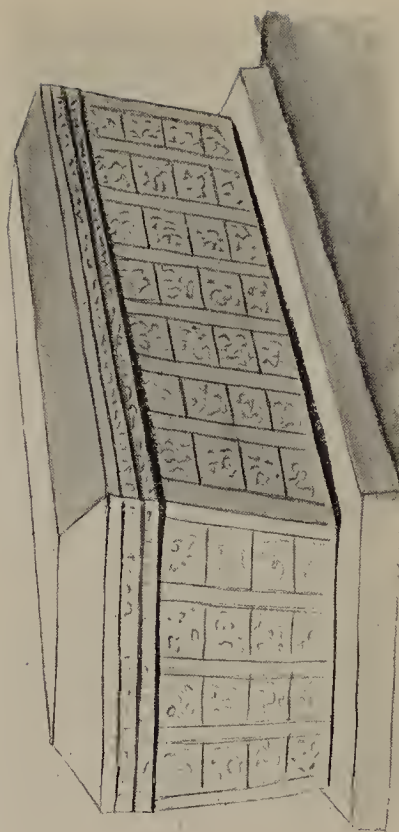
Entablature.



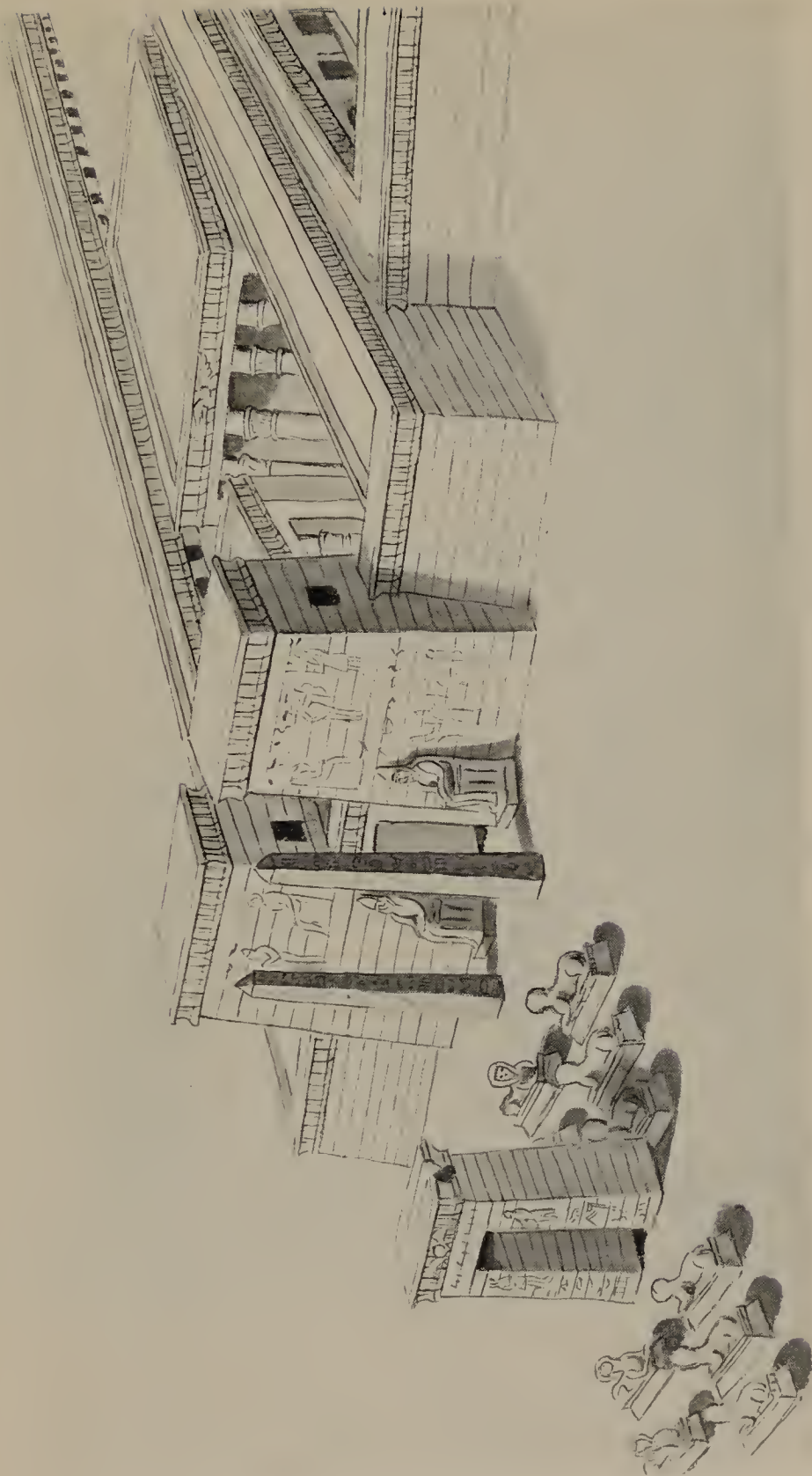
Door of Mastaba.



Pyramid of Saccarah.



Sarcophagus.



Egyptian Temple (Reconstruction).



Temple of Medinet Abu.

admitted that both the mummies and the pyramids testify that so far as was humanly possible they did their work thoroughly and succeeded in their aim. This prevailing faith and cult of the deceased was therefore also responsible in part for the sombre as well as massive character of all their monuments, the sepulchral section of which constituted the most important class. It seemed indeed that the principal occupation of the living in Egypt was the care and service of the dead.

The three main stages of Egyptian Art may be broadly established as follows. The first comprising the time prior to the "Hyskos" or Shepherd Kings to B.C. 1580, when they were expelled, to which period belong the foundation of the city of Memphis, B.C. 2250, the Royal Tombs raised on artificial mounts and some of the pyramids among which that of "Assur" and the more famous one of "Gizeh" otherwise of King Cheops about 3,000 B.C. The second, the most brilliant of Egyptian history and art, may be dated from the expulsion as above of the Hyskos and their substitution by an indigenous dynasty, that is from B.C. 1580 to B.C. 525.

This period, illustrated by such great rulers as Rameses, Thotmes and others with Thebes as the capital, is signalized by the introduction of artistic columns and sculpture and the erection of their finest edifices. The third epoch commencing from the conquest of Egypt by Cambyses B.C. 525, traverses the domination of the Persians, Greeks and Romans, to terminate with the extinction of Egypt, cancelled from the role of nations by the Edict of Theodosius in A.D. 381. Owing to the aforesaid singularly conservative and tenacious nature of the Egyptians their Architecture did not lose much or essentially change in the last period even under the incubus of enemy domination, at least not in the same degree as others placed in similar circumstances.

The chief typical architectonic units of the Egyptians were the "Obelisks" rectangular pillars ending in an apex at the summit and usually in a plinth at the bottom, generally decorated with hieroglyphics and arabesques, the counterparts of the Roman isolated honorary Columns, the "Pyramids" an equilateral triangle diminish-

ing from its base till it culminates in a point that correspond as to purpose to the Roman Mausoleums, and the "Mastaba" or Tomb-chapels which in a way take the place of the Roman Aediculæ or Sacelli.

The Pyramids were not all uniformly of the usual type we are accustomed to associate with these erections, there were besides two others. The stepped Pyramids consisting of several tiers progressively diminishing upwards each one composed of four, five or more steps with a landing between each flight and terminating in a flat summit, and the dual Pyramids formed of two united sections, the upper one of a low, wide pyramidal form, the under like a trapezoidal rectangle.

As regards the plan of the normal Pyramid the "Gizeh" may be taken as the best available specimen. Externally. Its height of 160 meters composed of 205 successive layers of blocks of stone rests on a perfectly square base of about 250 metres laterally, with its entrance, a quadrangular aperture, placed, as in all pyramids northwards. The entire monument being according to Herodotus composed of the calcareous stone of Mokattan covered with a casing of black polished basalt.

Internally the entrance opens into a descending corridor that after about 36 metres is blocked by a wall, from this another corridor ascends in an opposite direction to a platform with an oval well, and then a third corridor leads to the Queen's chamber. Turning back to the well another ascending corridor conducts to a decorated gallery at the extremity of which lies the mortuary cell containing the Sarcophagus of granite 2.27% metres long by 1 metre broad. In respect to position the Egyptian Tombs were of two kinds, the superterranean and the subterranean, the first mostly erected on artificial elevations and preferred in northern Egypt, the second cut or dug into hills and frequently favored in other parts of the country, a diversity that may perhaps be attributed to the difference in the nature of the land. But to whatever kind or epoch these Sepulchres appertained they uniformly consisted of three different sections, viz: the chapel, the corridors and the mortuary cell.

The first, sometimes extensive and nearly isolated to which the public were admitted, was composed of one or more Halls with walls painted in scenes usually representing the habitual avocations of the defunct occupant, his prayers and offerings to the Gods and the process of his own embalmment, was furnished with marble tables for the deposition of the offering, and the performance of religious rites, and with piers bearing inscriptions referring to the dead and their ancestry. In one angle the statue of the deceased was placed enclosed above and all around save for a small aperture before which incense was burned. The Arabs called this little enclosure "Sardab" or Treasure because there were usually found therein many precious articles.

The second section was the means of communication between the first and third, but expressly designed and fashioned to serve two opposite purposes. For those entitled to use it and therefore cognizant of its arrangements, it was a means of transit between the Chapel and the Cell, while for all others, uninvited visitors, malintentioned violators, etc., ignorant of its plan, it became a labyrinth of apparently inextricable mazes, unsurpassable obstacles and risky pitfalls calculated to mislead, impede and bar their progress and endanger their persons.

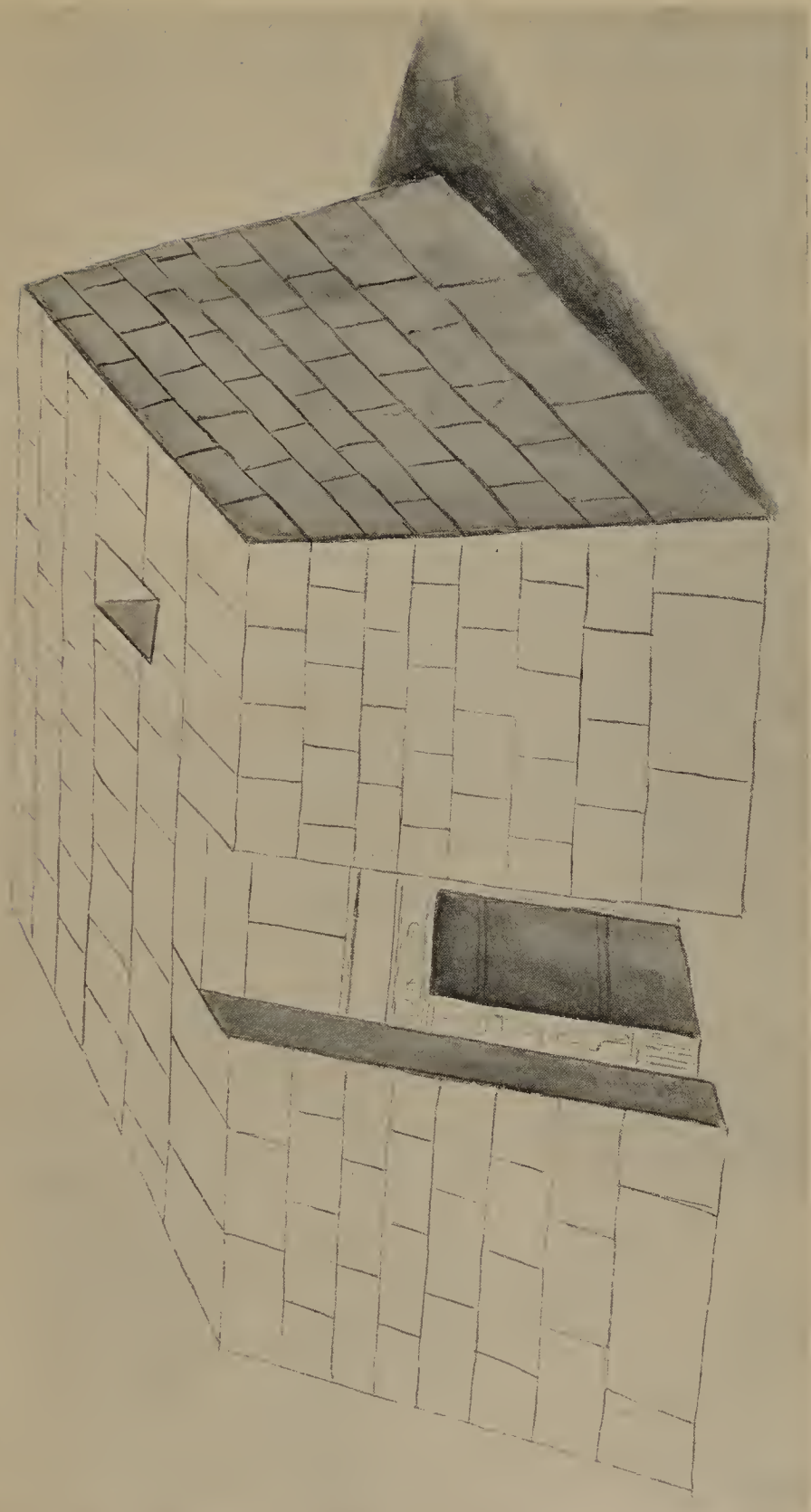
The third, carefully protected and enclosed in conformity with the dominant principle of preserving the corpse safe and intact, was the Sepulchral cell containing the Sarcophagus wherein the mummy of the deceased was deposited. It may be observed in respect to the shape of the Pyramids that though it was the best in order to ensure solidity it was the worst as regards economy of space, of material and of available capacity, requiring a great size to contain a relatively small Sepulchral chamber, and if they were not enormous they would have looked ridiculously mean.

Having taken a brief survey of the general construction, disposition and arrangement of the Tombs we will proceed to a fleeting examination of the Temples. The earliest Egyptian Temples whose ruins are still existing are of a date anterior to the XVII Dynasty and consequently belong to the most splendid period of Egyptian Art.

An Egyptian Temple of the first class complete in all its parts was a co-ordinated assemblage of gigantic structures. First came the avenue bordered by Sphinxes leading to the first isolated Gate, the so-called "Pylon" from *Pile* Gate, composed of huge trapezoidally shaped lateral piers supporting a strong, heavy architrave, all decorated, and thus constituting a quadrangular aperture as the passage conducting, after an open space, to the entrance of the Temple. Two high massive quadrangular towers flanked the Temple-Gate which had two obelisks in front and was bordered by two colossal sitting statues, and a solid wall surrounded the entire building. All these constructs were provided with cornices and were of the trapezoidal shape typical of Egyptian architecture. Passing the entrance the first porticoed court was reached which opened by another gate also with porticoes, incorrectly but usually termed the Propylaion, surrounded by walls and columns with a strong entablature that served as a parapet for the terrace above it which formed the roof.

From this section a vast Hall encircled with pillars and smaller apartments was approached. Finally a passage or corridor traversing the entire length of the Temple gave access to numerous lateral rooms destined for the use of the priests and attendants of the Temple. In the centre of this corridor the "Secos" or Sanctuary was placed cut out of a monolith block of basalt or granite, wherein were preserved the statue of the Deity or of the animal symbolical of him or her and the "Baris" or Sacred Boat carried in the processions. The Hypogaeums, whether constituting complete Tombs or Temples or a section of them, always consistently followed the rule of the three aforesaid divisions of these structures and were composed of more or less spacious Halls and corridors with flat or concave vaultings supported by colossal statues and pillars. These excavations were occasionally of vast dimensions reaching a depth of 250 meters and even more.

The principal materials employed were sandstone, calcareous stone, red and gray granite, bricks and porphyry, and for statuary of large proportions frequently basalt and for the smaller sometimes white marble. The earliest columnar erections consisted mostly



Mastaba.

of stout, heavy quadrangular pillars without capitals or bases sustaining a plain, ponderous architrave. Subsequently four principal types were instituted namely: the Lotus Order with its ovoidal capital decorated with lotus leaves and buds or sometimes with arabesques, the Palm Order with its capital of spreading palm foliage shaped like a reversed bell, the Athoric Order with the capital composed of the quadrifrons head of Athor, the Egyptian Venus, and the Protodoric, a species of Greek Doric minus the echinus. The abacus of these capitals was occasionally as high as the vas, thus resembling a second capital superimposed. The shafts usually extremely stout were frequently ornamented with carvings of leaves, flowers, human and animal figures, fabulous creatures resulting from a combination of both, utensils, instruments, implements, etc. Vertical lines were also sometimes traced down the length of the shaft, but, with the exception of the Protodoric, inversely to the method adopted by the Greeks and Romans with their flutings, that is, in the Egyptian columns these lines were either vertical bands raised from the surface of the shaft or marked by parallel incisions on it, whereas in the Graeco-Roman architecture the corresponding flutings are as we know, grooved with the separating edges or raised fillets.

The Graeco-Roman anulus was either omitted altogether or represented by the substitution of several flat circles level with the shaft marked by cut lines, or by an ornamented broad taenia. The entablature was composed of a plain flat projecting cornice overhanging and surmounting a frieze, concave and hollow, with curved vertical lines about three or four times as broad as the cornice, resting on an architrave usually of about the same depth as the frieze, plain except for its border of zigzag lines which passes along the top of the architrave and down its profile which it exceeds by its own width.

The Egyptian entablature, in opposition to the system adopted in Greek and especially in Roman architecture, whereby this member varies in accordance and harmony with the several Orders, was always nearly or entirely identical whatever the class of building or the Order of columns sustaining it. But speaking in a general sense it would be futile to expect to find or to attempt to regulate and define

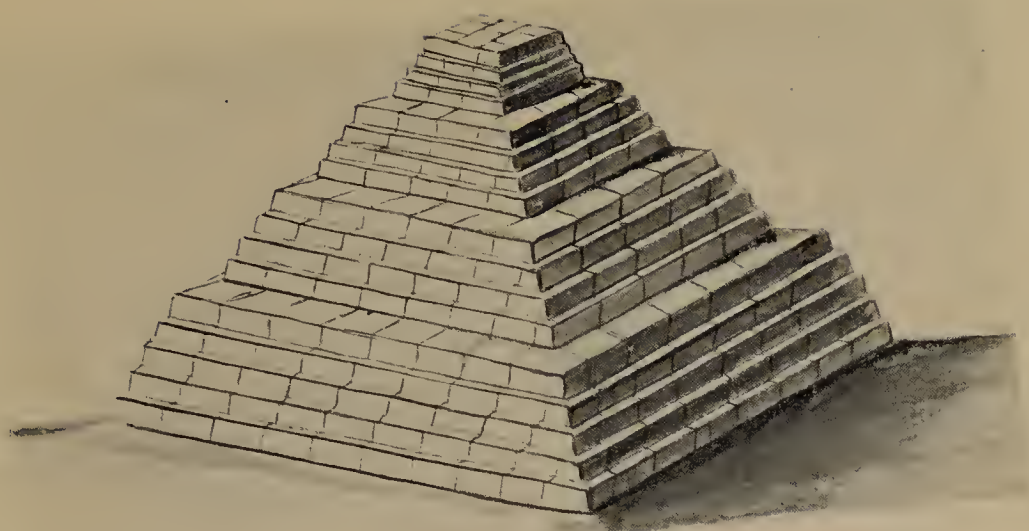
the Egyptian or any other ancient architectonic style by anything approaching the specific and harmonious canons of ancient, classic European Architecture.

Another peculiarity typical of Egyptian architecture are the Hieroglyphics, which with this people served both as an inscription and a decoration, a unique combination apparently first adopted by the ancient Egyptians. The paintings, engravings and reliefs of this people were rigid in outline, constrained, expressionless and lacking in grace and life, these grave defects being in part due to their ignorance, shared by other peoples of extreme antiquity, of perspective, their only notion and rule relatively to this magic factor being to place the objects intended to be represented as near, lower down, and those further, higher up. Their statues cumbrous, lifeless figures, were placed together in couples similarly to their obelisks and sphinxes or in a series like their pillars, and manifested individually as well as collectively, a lack of proportion and symmetry, being often of unequal size, height and style.

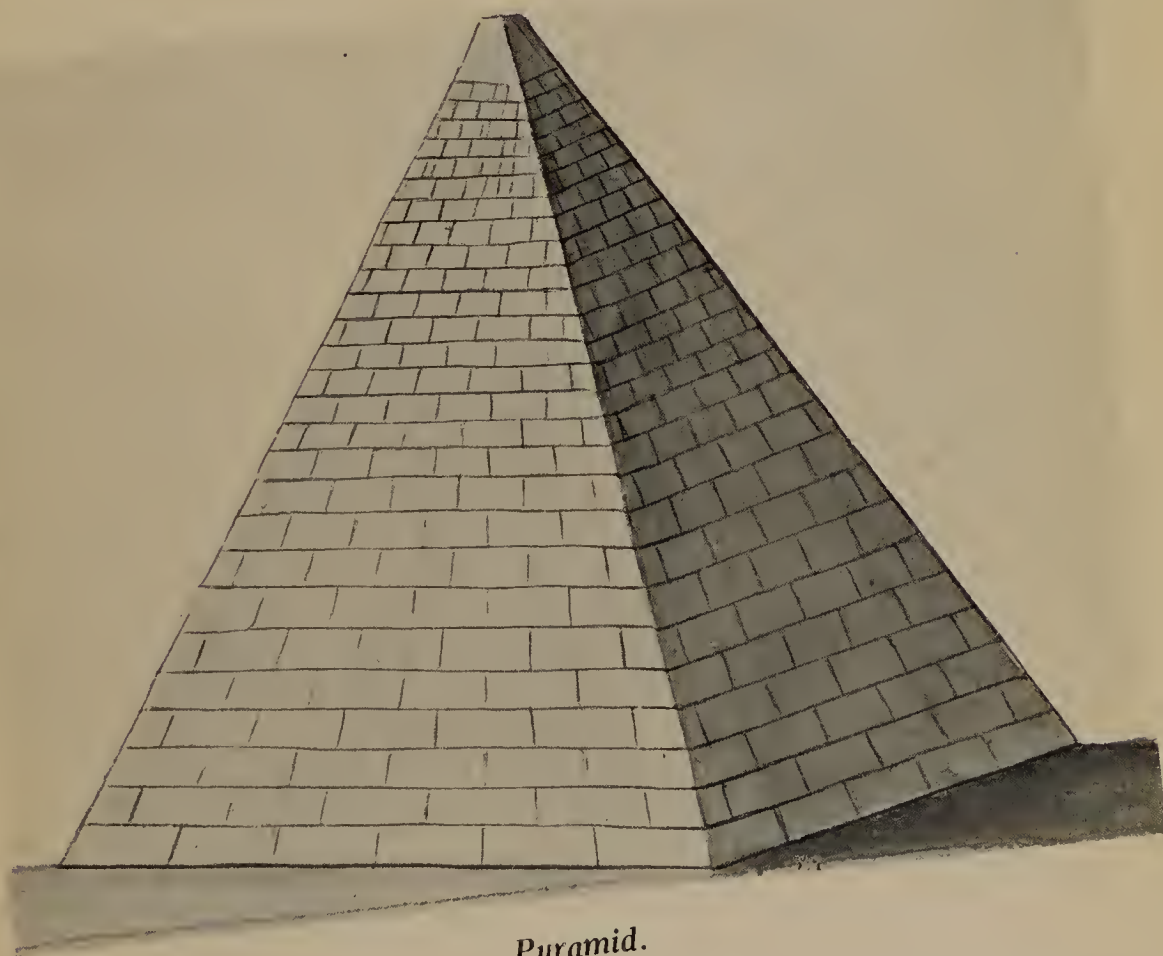
In respect to their secular edifices, private and public Palaces, etc., Egypt, if we are to judge by the ruins, seems to have been singularly and out of all proportion deficient. Nor do records so far as we can gather, alter or substantially modify this view. But this apparently phenomenal absence is explicable by the peculiar cast of Egyptian psychology.

The religion of this people which dominated their whole lives was of an ultra gloomy and oppressive character and represented by a powerful priesthood and based chiefly on two foundations, the cult of their monstrous Deities and that of their dead. Faith in the spirituality of man and in the Supreme Beings on whom it depends, and the remembrance of and reverence for the predeceased no doubt endows us with and develops within us elevating principles and refining and comforting sentiments, but with the ancient Egyptians it assumed an exaggerated, lugubrious and material form that pervaded all things. Egypt, was above all, a vast necropolis, a country of and for the dead.

In these conditions it is not surprising that the efforts and talents of all should be mainly dedicated in architecture as in other



Stepped Pyramid (near the Tomb of Micerinus).



Pyramid.

directions, to productions connected with the prevalent aim of their existence, it could not be otherwise, and to expect of the Egyptians to build extensively edifices intended to give joy, diversion, or recreation of any kind would be to expect an elephant to fly, or any similar incompatibility.

On the other hand or rather in consequence of this death spirit and cult of fearsome Deities there was nothing unstable, small, frivolous or transitory about the ancient Egyptians, if mirth was banished so was triviality, they were extreme and uncompromising exclusives living in an atmosphere of sombre grandeur and tideless eternity pervading everything.

*Phoenician, Persian and
Assyrian.*

PHŒNICIAN.

PHŒNICIAN. The etymological origin of this name has furnished as so frequently occurs, a subject of controversy for the learned. Some derive it from "Phoenix" or Palm, a tree that owing to the climatic and other conditions flourished formerly far more than at present in the region that is affirmed to have been the cradle of this people, a narrow strip of land lying between Mount Liban on the east and the Mediterranean Sea on the west.

Others opine that this appellation came from "Phoenix," the fabulous solitary bird so often mentioned by ancient writers, such as Herodotus, Ovidius, Plinius, Tacitus, etc., that lived either 500 or 1461 years in Arabia. Some of these authors narrate that at the end of its life-term the Phoenix retired to its nest and made and lit its own pyre from the ashes of which the infant bird was miraculously born, and others that when after the demise of the parent-bird its offspring grew up the latter carried away the intact corpse of its progenitor to the altar of the Sun where it was cremated, but all agree that there never was more than one Phoenix living at a time.

Other etymologists again attribute to the word Phoenix the meaning of "Red Tint" that is, that inimitable purple dye extracted from the "Murex" a shellfish, for which the Phœnicians were celebrated. Of the three versions, the tree-theory seems to be the most probable, the connection and signification of the other two, the bird and hue versions, are not so obvious.

The Phœnicians, according to the Holy Scriptures a branch of the Camitic otherwise the Canaanitish stock, but according to ethnologists who base their theory on the linguistic affinity of this people's tongue with the Samaritan and Hebrew, appertaining to the Semitic race, were an enterprising, capable, and cultured people.

As merchants, colonizers and seamen it is recognised that they were unrivalled by their contemporaries, the world's commerce being mainly in their hands and the Mediterranean Sea came to be a vast Phœnician Lake surrounded by their colonies and possessions. In Agriculture too the abilities of this people were held in so high and general an estimation that when the Romans, after capturing Carthage, distributed the contents of the libraries of that City to their allies, reserved for themselves the twenty-eight volumes on Agriculture by Mago, which work the Roman Senate commissioned Decius Selanus to translate after which it was preserved together with the original in the State Archives as the standard work on Agriculture.

The Phœnicians were also inventors, the arts of manufacturing glass, special dyes, fusion of metals and the alphabet, which last it is affirmed they taught the Greeks, were attributed to them. Carthage, derived from "Karthago" or Karthada" otherwise the New City, was founded either in 846 B.C., or in 884 B.C., it is alleged by Dido the daughter of the King of Tyre and rose to be the greatest of the Phœnician States, the Queen of the Sea, and apparently destined to become the Mistress of the world, when she came fatally into contact and conflict with the power and patriotism of Rome, to be annihilated in the third of the Punic Wars, B.C. 146.

With regard to their architecture of which exceedingly few remains survive, the Phœnicians, judging superficially and solely by appearances, did not belie their fame in other directions, for it was in a scale and style commensurate to their civilization, wealth and power. The Prophets Ezechiel, Isaiah, Jeremiah and others allude to the grand and colossal constructions of Tyre, and her heir and lineal descendant Carthage was likewise adorned with numerous splendid edifices, and the immense colonnaded granite porticoes of the harbours of the Phœnician sea-ports were in particular extolled.

Among the most conspicuous examples, now nearly or entirely vanished, may be mentioned the Temple of Hercules built by King Iram of Tyre with its pillars sheathed in gold, that of Apollo at Carthage with its gold-plated walls, that of Venus at Paphos in Cyprus of which the extensive remains are still traceable, to which may

CAPITALS.

*Phoenician.**Persian.*

perhaps be added the famous Temple of Solomon begun B.C. 1012, terminated B.C. 1005, and so minutely described in the III Book of Kings.

With regard to the small, moveable relics rescued, the column or as some prefer to style it the "Stele" in the Museum of New York, the votive monument at Malta and the terracotta figure found in Sardinia and now in the British Museum are perhaps among the best known and identified.

But however distinguished for magnitude and magnificence the architectural works in Phœnicia and her dependencies may have been, they were not in the true sense a national creation. Of the three stages of this architecture the first described vaguely as massy and costly, can alone lay some claim to this title, the second bore the impress of the Græco-Roman schools too strongly to be any other than mainly alien and the third was almost entirely Roman.

The Phœnicians, unlike the Egyptians who were exclusive and self-contained or what we would now call "Insular" if applied to the British, were on the contrary pre-eminently cosmopolitan and therefore readily assimilated and adopted the ideas and productions of other countries and peoples as their own, and, if better, preferably to their own, and the above noted relics are examples of this Phœnicain attribute, for the Column reveals the Greek style, the cippus the Roman and the figure the Phœnician. But besides their cosmopolitanism there was another reason for the Phœnicians not having a distinct national architecture. This people with all their fine qualities were by no means "artists" as the word is generally understood and used.

Their talents and energies were devoted to commerce and to those arts, sciences and businesses connected with it. They were not born, gifted or trained for the Fine Arts, so essentially a non-money generating avocation, which moreover has no relation of any sort with trade. Indeed the qualities required for each occupation are so diametrically opposed that it is difficult to conceive any individual or nation possessing both the commercial and artistic attributes concurrently in any marked degree.

While therefore unable and unwilling to produce themselves in architecture they were quite able and willing to procure by purchase the creations of the genius and work of other peoples, which is no uncommon occurrence from the time of King Iram to our day. There is a saying that " History repeats itself " undoubtedly a truism and mostly a true one, seeing that it amounts in other words to the fact that man being essentially the same in all time, given the recurrence of certain circumstances, the same or approximately the same results usually follow.

To this very frequent and natural course there are, as always, exceptions. One of these and perhaps a unique example in its way is the case of the Phœnicians. This people were as aforesaid, an unquestionably persevering, enterprising, intelligent, courageous and cultured race. They had constituted themselves into a potent organized State whose dominions were rich and extensive, whose influence was still more so and whose mercantile and war navies were the most powerful and numerous of the time.

Their armies composed chiefly of mercenaries, that is, professional warriors, drawn from the best elements of various races, were very numerous and aided by a great number of trained elephants who served both as artillery and as cavalry, and their horsemen were accounted the best of the period while their military leaders were usually competent and sometimes distinguished and even great men. Their prosperity was proverbial and seemingly firmly established, their achievements in so many directions had been crowned with great and repeated successes and the race produced several eminent and even pre-eminent men. Yet once vanquished their collapse was complete and irreparable, they were effaced as a nationality as well as a State, while weaker, meaner and smaller nationalities survived in some way and degree even under a foreign yoke and were capable of a resurrection.

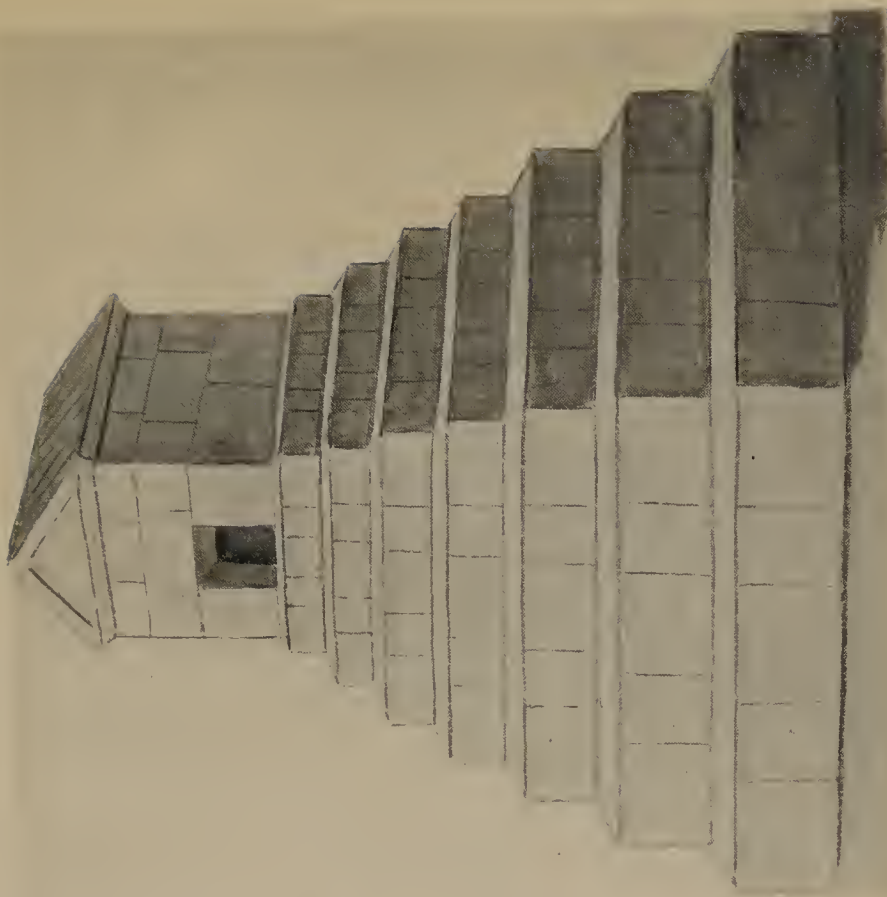
It may indeed be said that history does not furnish another exactly parallel instance, another precise replica, of the case of the Phœnicians. Nevertheless the explanation of this apparent enigma is neither far nor difficult to seek. It is an ill day for a nation, as for an individual, when one element absorbs all the others, the

healthy and vital equilibrium disappears, and once this all-embracing element is struck, as it must inevitably be in the course of human events, there is no reserve to fall back upon and all is irretrievably lost.

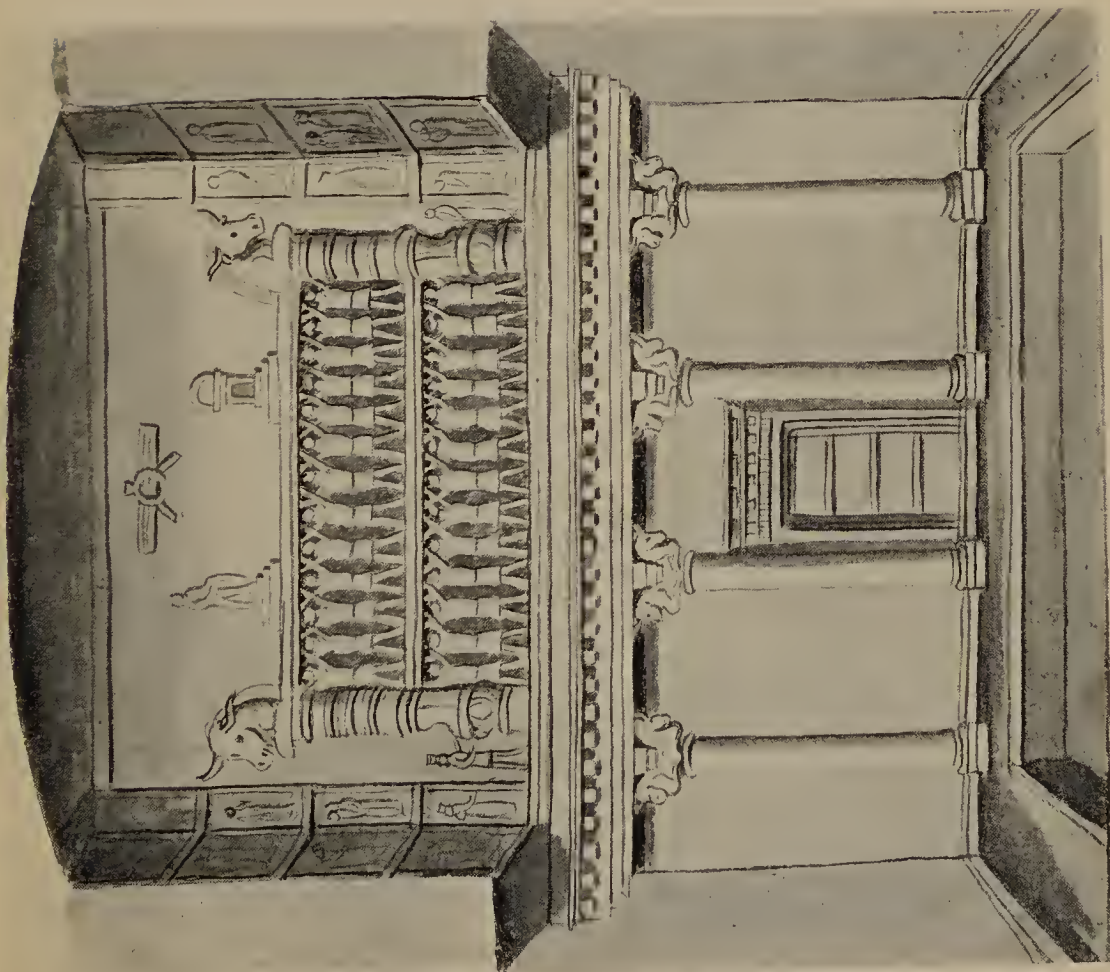
The Phœnicians dedicated all their powers, mental and physical, to one object, commerce and its concomitants, otherwise the generation and multiplication of money. There can be no doubt that commerce in its place is of great importance and value in the life of a people, so is science, literature, art, statecraft, etc., but to render all others subservient exclusively to any one of them is to paralyse the greater number and to pave the way not merely to a speedy decay but to an utter annihilation and obliteration.

Money is a great asset, whoever disputes this or affects to despise money must be as a rule either deficient in mind or in sincerity or what is sometimes a cross between the two, a utopist, coined wealth can accomplish a great deal but only on condition that it is the means not the end, the servant not the master, the agent not the director, otherwise it invariably becomes a source, and a prolific one, of weakness and corruption. In their all-devouring money-hunt the Phœnicians neglected to foster and develop the higher and stronger qualities of mankind, such as disinterestedness, equity, humanity patriotism, etc., and without these there cannot be any national stamina or real greatness.

A purely commercial community can have but a small place in history and its influence is neither elevating nor durable. Thus it came to pass that once the omnivorous, unsupported, unredeemed and grossly material golden idol fell to the ground, it disappeared carrying everything with it. What has Phœnician civilization permanently done for mankind and in what form does it now survive?



Tomb of Kurus (Cyrus). B.C. 529.



Tomb of Darius at Persepolis.

PERSIAN.

PERSIAN. Owing to the many points of resemblance between the Assyrians and the Persians, accentuated or perhaps mainly formed by their reciprocal immigrations, their respective architectonic styles were not very dissimilar indeed some authorities confound and amalgamate the two into one architectural type of two branches, the progenitor or at least the elder being the Assyrian.

The Persians, a mixed people of the Arian, Tauranian and Semitic families, were not very highly endowed with the artistic sense but were nevertheless great lovers of magnificence and lavish display and habituated to a life of ease and plenty, and these national features and circumstances were naturally reflected in their architecture. Iran or Persia, the first being the name given by the inhabitants to this region of Southwest Asia, the second the designation applied in origin to the land lying south of Medea, was a country abundantly furnished with vast quarries of excellent marble which facilitated the practical realization of their aims and preferences in so far as show and splendour were concerned, while the extremely hard, dark, calcareous stone of Brachma provided a building material that was almost impervious to the assaults even of fire, as was proved when Alexander of Macedon endeavoured with such little success to burn the Royal Castle of Cyrus at Persepolis.

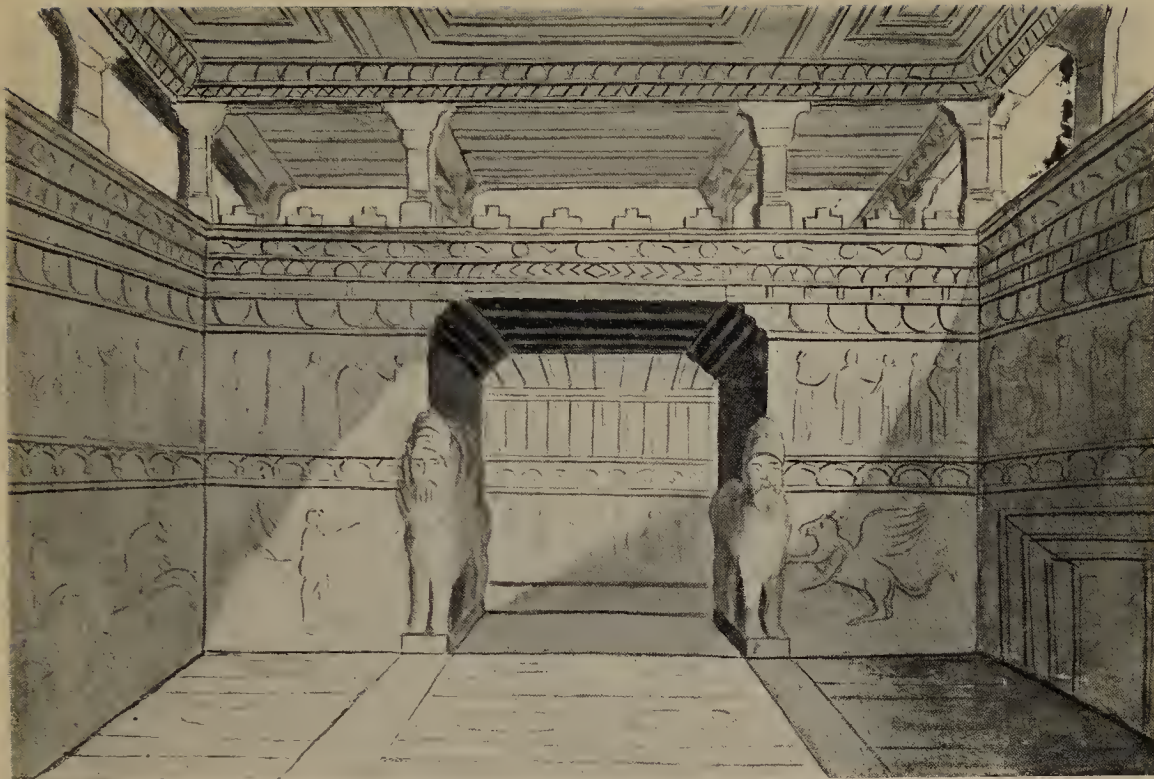
The Palaces of Persepolis, Savistan and Teran Abad, and the Tombs of Darius and Cyrus are notable specimens of Persian Architecture. Of these the Mausoleum of Darius is probably the best and most finished example of their art at its prime, that is, between B.C. 560 and B.C. 330. The capitals, shafts and bases of its columns are certainly remarkable for their original individuality. The type of capital frequently adopted consisted of a quadrangular, oblong

plain, robust abacus resting crosswise on an echinus formed of the busts of animals, generally bulls, below came a curled and lined moulding and then a kind of second capital over a vertically filleted shaft standing on an apophyge under which was a deep torus shaped like a bell and a narrow listel at the bottom representing the plinth. The entablature usually consisted of a broad and strong denticulus surmounting the frieze. The figures engraved on the Persian monuments as well as their statues resemble those of the Assyrians, Egyptians and Indians, that is to say, they are numerous, stiff and lacking in natural grace and life.

The constant recurrence among all the above peoples in their sculptured effigies of monstrous and hideous creations of bestial and reptile heads or members in conjunction with those of human beings, their general predilection for teratology, by which they typified even their Divinities, revealed a morbid and perverted imagination and taste.

Nevertheless there are to be found some students of archæology who have contrived to discover as they profess a certain resemblance between the Assyro-Persian and Greek styles of architecture, though somehow they have had the grace to forbear the Roman, but if this theory could ever be admitted it could at best only be qualified as a strained and far fetched fantastical analogy that cannot by any effort serve any useful purpose.

The Asiatic Assyro-Persian architecture might perhaps be said with a little more show of reason to bear some affinity to the African Egyptian with which it has in common besides the Sphinxes and Leoalati and the cuneiform and hieroglyphic inscriptions also the pyramidical shape of their monuments, though undoubtedly the African and the Asiatic are distinct architectonic styles.



Interior of Palace Saloon.



Subterranean Aqueduct of the Palace of Nimrod.

ASSYRIAN.

ASSYRIAN. The architecture of this people of Semitic race who almost entirely replaced the aboriginal Sumi of the Turanian stock in this vast region of Western Asia, ascends to great antiquity, B.C. 1,000-600 being the period it flourished at its prime.

The rocks of basalt with metallic veins in the northern districts and the alabaster and marble in the eastern, the quantity of pines, palms and other trees provided ample and suitable material for the imposing but not equally refined architectural works of the Assyrians.

The grandiose ruins of Nineveh and Babylon have been considered the best examples available now of their vast, showy but not graceful productions in this direction. A singular peculiarity of the Assyrian constructive system was that the walls of their buildings consisted mostly of a core of unbaked bricks cased in slabs of alabaster covered with carved inscriptions of cuneiform letters.

The interior of their palaces was richly ornamented and the arabesques were usually crowded and sometimes inelegant, though the mosaics of their pavements did not merit this reproach as they were finely designed and wrought, and the internal arrangements of their habitations well planned.

In their reproductions of living creatures engraved or in relief in scenes generally treating of warlike subjects the Assyrians succeeded better with the animal than the human species, the former having more life and action than the latter. In another respect this people manifested a considerable degree of development, that is relatively to their water-works, which though not comparable to the Roman Aqueducts, nevertheless proved that the Assyrians knew how to build and build well in structures of this description.

The canal still comparatively well preserved under the small palace of Nimrod testifies to their capacity in this line. Another typical production of the Assyrians is their "Leoalati" or Winged Lions, which have their counterparts in the Egyptian and Indian Sphinxes, with the difference that the former have a male head and the latter a female. It has been inferred that the Winged Lions were originally intended to represent symbolically the idea of those gifted rulers who combined man's wisdom, a lion's strength and a bird's swiftness as typified respectively by the head, body and wings. These Leoalati, so far as it can be said in reference to these fabulous, monstrous hybrids, were artistically proportioned as well as finely carved.

In the remains of the palaces of two Assyrian Rulers, Salmanassar I. (B.C. 1300) and Taglat-Falassar (B.C. 1130) discovered in A.D. 1845-49, there were found implements, instruments, utensils, fragments of reliefs, of furniture of bronze, of articles of ivory that serve to give us some insight into the habits, life and customs of the ancient Assyrians. Their biers or coffins too were peculiar in shape, like a shoe, and in material, vetrified sand. With regard to its general character Assyrian architecture besides its above noted traits reveals the great predilection of this people for the extraordinary.

Chinese.

CHINESE.

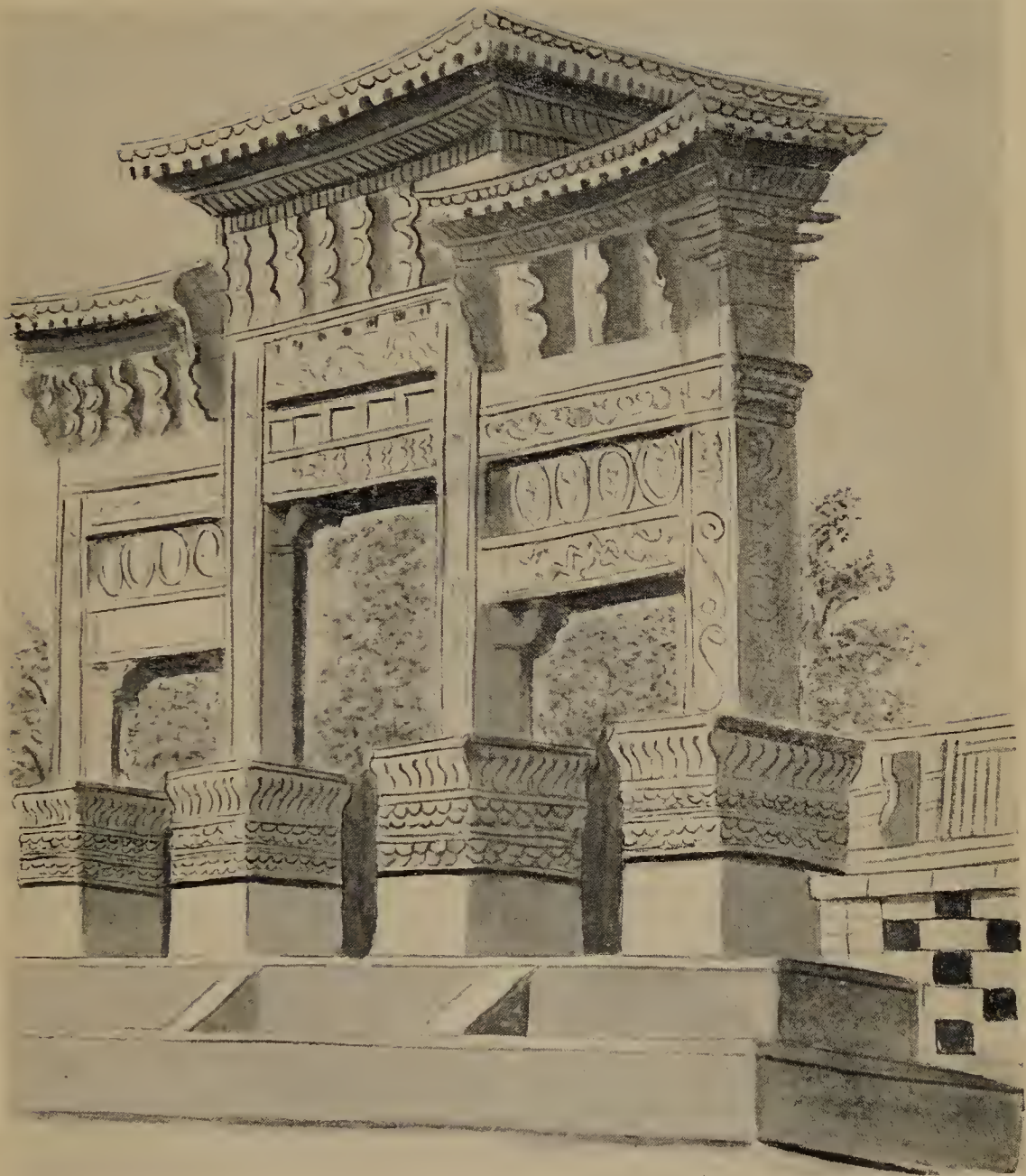
CHINESE. Although Chinese civilization is one of the most ancient of the world, from the archæological standpoint our information relatively to this people is very scarce, obscure and vague.

The best known monumental construction of China is their great wall, which, it has been asserted, was built in part in 400 B.C. and to which an American engineer recently assigned a length of 360 German miles, a height of 18 feet and a width of 15 feet. This wall traversing uninterruptedly plains, mountains, marshes and rivers is justly reckoned as one of the most remarkable and extensive works extant.

Among the other noteworthy productions of the Chinese may be mentioned the Pagoda of Hong Kong said to be 1,700 years old, the Temple of Confucius and others of white marble, the Portico of Meug of the XII century, the Pagoda of the Eunuch, the Bridge of Yung-Ming-Tjan, etc. Chinese architecture is distinguished by a character of lightness and of minuteness, intricacy and delicacy of detail, with its low buildings with the slenderest of columns, undulating roofs, profuse and complicated ornamental designs, in short a species of architectonic open-work embroidery which in our eyes produces' a somewhat fantastical and frail and sometimes attractive effect.

Porcelain and ivory were much used in Chinese works of all descriptions, both substances being well adapted for a variety and minuteness of design respectively in painting and carving. The Tower of Porcelain of Nanding may be cited as an example, possibly a unique one, not in China but elsewhere of the peculiar creations of this people.

If it has not been thought necessary to make any mention of the Japanese with reference to this Art, the reason is that strangely



Gate at Pekin.

enough there do not seem to be any records or remains existing or so far as is known of the ancient architectural works of this people, otherwise so thorough, and capable, and as regards their modern productions in this line they are, like those of the Chinese, not calculated to attract any special attention or study, besides even if they were, it is manifestly not the province or purpose of this work to treat of modern constructions of any description.

Indian and American.

INDIAN.

INDIAN. Indian Art in its several branches dates back to a remote period. We learn both from Sanscrit writers and from the testimony of those who have visited these regions that many centuries prior to our era this people were most expert in the moulding of metals and that their work in ivory, steel, gold and precious stones exhibited in an eminent degree elaborate finish and artistic taste.

Excluding the earliest attempts at construction, such as the "Dagob" a species of conical mounds and the "Vihara" grottoes hollowed by man and supposed to be monasteries, which cannot by any license or abuse of language be termed architectonic productions, Indian architecture so far as can be judged by the oldest monuments existing is unmarked by the progressive stages observable in those of other peoples presenting *ab initio* an entirely formed style complete in all its elements.

This exception may however be attributed to the destruction of the earlier buildings or to the successive modifications of them, and this theory is corroborated by two circumstances. First, that it has not been ascertained by any serious study whether the surviving monuments are the ruins of the original structures or of the subsequent restorations and extensions, and secondly, that the most important of the said edifices belong to Brahmanism and are therefore more recent than the Buddhist of which some rough, wrecked, authentic triumphal arches attributed to King Asoka, propagator of Buddhism, still exist. There are two classes of constructions peculiarly characteristic of Indian Architecture, viz: the "Excavation Structures" and the "Pagodas."

The first probably the more ancient and certainly the more remarkable, are monolith edifices cut out with all their details from the flanks of mountains with a space around like a yard that separates

them from each other and from the parent mount. The huge Temple or "Kalaisa" of Ellora, which although dedicated to Siva is also styled a Pantheon, erected between A.D. 900, and A.D. 1,000, with its accessory group of minor monuments as well as galleries with their rows of ponderous pillars leading to them, were all extracted from the Ellora Hills, and considering that they were hewn from the hardest rock and that the Temple alone measures 300 metres in length by 160 in breadth, this work may be termed without exaggeration one of the most notable if not prodigious works that have issued from the hands of man.

This Kalaisa is divided into two stories with bracket pilasters of a sinuous outline sustaining the projecting roofing, those of the eight angles having crouching caryatides placed on their summits with the spaces of wall between these pilasters occupied by apertures and ornamental patterns traced over and about them. The interior is decorated with elegant pilasters ornamented with strange and ingenious designs resting on figures of elephants and the walls are covered with carvings of human, animal and allegoric images mostly of colossal dimensions.

Among other similar works may be mentioned the "Preveraton" of Chestua, that of the island of Garipur or Elephanta (so-called by the Portuguese on account of the gigantic stone elephant found there) near Bombay, that of Salsetta, etc. These Excavation Structures whether Temples or Galleries are it must be always borne in mind entirely monolith in all their members even to the statues of the Gods, apparently detached but adhering by their bases to the main fabric all of the same mount of rock. They were built either with the flat or arched vault plan, for instance Elephanta and Ellora belong to the first category, Salsetta, Cheveneh, Panara to the second and some archæologues maintain that the flat system indicates the earlier period and the arched, the later, but if the relative sculptures be taken into account with regard to date, this theory is not conclusively convincing because in both varieties may be observed some figures rough and rude and others well finished placed indiscriminately in the same building.

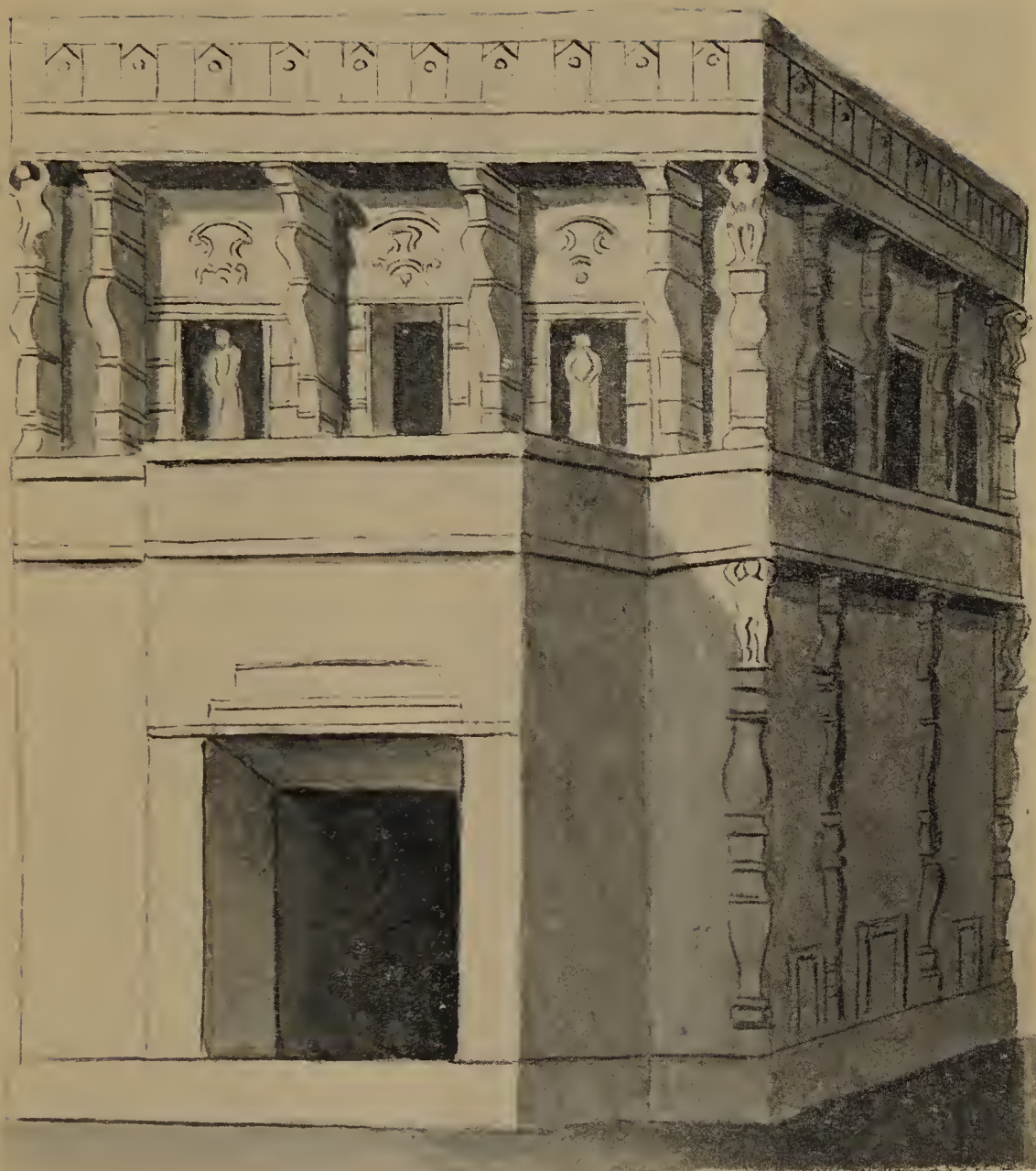
The Pagodas were sacred edifices surrounded by walls with an entrance-gate, the principal of which is the Sanctuary consecrated to the presiding Deity with smaller ones for the minor Divinities.

One of the best specimens surviving is held to be the so-called "Black Pagoda" near Calcutta, but although its Sanctuary is destroyed, its Vestibule albeit in a ruinous condition, still retains some of its features.

Two doors of five metres each open into this compartment which is covered with low reliefs representing groups of life-size figures in obscene attitudes, the lateral walls have a base ornamented with seven small statues each about 28 centimetres high ($10\frac{1}{2}$ in.) the upper part and the architrave being decorated with festoons, etc. It may be mentioned here that the carved garlands of pearls were a favorite decoration profusely adopted by the Indians.

On the pavement lies a stone 8 metres in length by 1,30% in width and 2 in depth which was placed originally over the door and on which can be discerned the images of the nine planets. The vault 30 metres in height is formed of layers with sculpturings and vertical semi-circular bands or rods. With regard to the Sanctuaries we will take as an example of the type, for all closely resemble each other, that of the Pagoda of Madura which is a tower-like erection of successive tiers diminishing progressively upwards on a quadrangular base with the faces and angles ornamented with projecting columns, superimposed successively over each other on the various stories, culminating in a gigantic stone turban or crown supported by eight lions. In the interior of the Sanctuary is the symbol of the Divinity, a rough stone, placed in a basin into which the offerings of the faithful are put. Before the Sanctuary stands the "Jugomahan" a fabric with a conical roof.

Cupolas were profusely used but the horizontal layers of which they were composed prove that this people were unacquainted with the mechanism of the classic dome. A noteworthy feature of ancient Indian architecture is that, in direct opposition to the generally established rules of this Art whatever its particular style, the Indians did not observe habitually uniformity in proportion and decoration with the result that not unfrequently even in



Kalaisa or Pantheon of Ellora.

one and the same range of pillars or pilasters some were stout and shaped like balusters, others slender and similar to candelabras, etc., so that in the infinite number of these sustaining members there cannot be found two precisely identical.

Sphinxes and obelisks, the counterparts of the Egyptian and Assyrian though generally inferior to those of the above peoples, in design and execution, are also among the ornamental units of Indian Architecture. The excessive and ill-regulated profusion of decoration was a fault common to the majority of Indian edifices, but in respect to proportion and dimensions there was a marked difference between the two above-mentioned classes.

With the Excavated or Hewn constructions the stout and heavy forms prevailed whereas with those erected or built on the ordinary system the slenderer and lighter predominated. With the introduction of Mahomedanism in India about the X Christian century (though some Arab writers date the partial conquest of this country by their co-religioners at the VII century) Indian architecture underwent a sensible change and assumed a new character, which while necessarily partaking in some particulars of the ancient Indian and of the Mahomedan otherwise the Arab-Moorish or Saracen style was still equally distinct from both.

In this second or rather third stage the monuments acquire a somewhat better defined and equilibrated character and the decorative branch is more rationally and tastily dealt with. The prevalent type of capital adopted is the double-bracket branching out to support the architrave on which the projecting beams of the latter immediately rest, the shaft is polygonal with a base consisting of a cubical or spherical zocle. Cupolas continued to be in use but fewer in number and composed of finely polished or gilded copper, the apertures are decidedly of the Saracenic style and the outer superficies of the buildings are colored in alternate bands of red and white, or red and yellow.

The details of this Indo-Saracen architecture are treated with great fineness but there is still to be regretted a certain superabundance of decoration and absence of regulated symmetry.

AMERICAN.

AMERICAN. The architecture of the indigenous inhabitants of this Continent cannot be termed homogeneous, as it may be said to partake of three styles, namely: the Egyptian, the Pelasgic and the Celtic. To establish with any degree of certainty how this similarity originated between the works of peoples so separated by distance and climatic and racial diversity, and above all, if we endorse the generally accepted theory, so completely cut off from all communication with each other, is a problem doubtless exceedingly interesting but equally difficult to solve satisfactorily.

Three conjectures have been suggested in explanation of this curious phenomenon. Either that the partial uniformity of production derived from the partial uniformity of conditions common to all peoples, more or less, in the initial and primitive stages of their existence, or that by a remarkable coincidence in this case of conformity of conception and execution among these various and dissimilar races, otherwise so unconnected, which resulted in a resemblance between their several architectures, or finally that the aboriginal inhabitants of the three continents had, contrarily to the received doctrine, intercourse with each other long prior to our mediaeval discovery or rediscovery of America, and were therefore in a position to communicate mutually their ideas and inventions in architecture and in other directions.

The first hypothesis is not convincing because we know that the works of all peoples in their respective initial stage, though naturally marked by a vague general similitude of all rudimentary works, their elemental and undeveloped character, each possess nevertheless their own distinctive features and some indeed even in their first infancy very decidedly and widely differ.

The second conjecture is rather in the nature of a matter of faith in coincidences as factors to be reckoned with as having always some share in everything, only in this case it is not a share alone that is assigned to coincidence but the entire result, and if we admit the third it still remains to be seen whether the inhabitants of the old continents, the Pelasgi, the Celti and the Egyptians, taught the Americans or vice versa, or whether both sides learnt and borrowed mutually.

In reference to the world-influencing event of A.D. 1492, it is noteworthy that we are exclusively indebted to Italians for its accomplishment, although the Latin race which holds the first place in so many other respects, does not possess this supremacy in seamanship.

Cristoforo Colombo A.D. 1435-1506) was a Genoese in the service of Ferdinand and Isabel of Spain who first landed in the island then named " Hispaniola " otherwise called San Domingo or Hayti, and in A.D. 1498 on the continent. Before this date Giovanni and Sebastiano Cabotto, father and son, (respectively, A.D. 1420-1498 and A.D. 1473-1557) noted navigators were Venitians in the service of Henry of England, and they had made their way to the mainland of Northern America acting on their own account and independently of Colombo, and thirdly Amerigo Vespucci, a Florentine, also in the service of Spain (A.D. 1451-1502) from whom this Continent took its name is likewise said to have reached the mainland before C. Colombo.

Many centuries therefore previous to the advent of these enterprising, bold and capable men in these regions an indigenous architecture existed as the inevitable consequence and mark of an existing national civilization the ancient and majestic ruins of which prove that it was not inferior to that of the Indians of Asia or of the Egyptians of Africa.

Besides the lengthy dykes and walls of disappeared cities that have been overthrown and overgrown by forests rising around them, there have been found several edifices of various categories and dimensions. During the excavations of A.D. 1802-1804 Humboldt discovered the remains of the " Culracan " in the province of Chepia

near Palanké and some fine though low buildings constructed entirely of lithographic stone covered with a very hard cement and decorated with colossal figures in high relief and several friezes whose date of erection has been approximately fixed at about 3600 years back.

Worthy of note are also the ruins of "La Casa de Cas Monjas" at Uxmul with its typically peculiar tessellated and meander facade exceedingly well executed, those of "Zaye" with its colonnette's of a balustrade still standing, those of the Palace "Chimuchancher" and "Glydon-Itza," the pyramids of "Liban" and "Djamal" and others. In these constructions the pyramidical forms and the reproduction of the serpent and lotus establish a relation with Egyptian art.

In Mexico we find also the "Teocalli" that served for the interment of Kings and for the sacrifice of human victims. These Temple-Tombs are built in the shape of stepped pyramids, the best known of which that of "Clolula" raised by the Aztecs, a highly civilized people, that measures 54 metres in height and 438 metres in breadth on each side, and has therefore nearly twice the lateral width of the famous Cheops pyramid in Egypt. In Mexico there were also the "Temazcalli" the dome-shaped vapour-baths that are rather interesting for their purpose than for their architecture.

Remarkable likewise is the so-called "Casa dei Fiori" a rock of about 350 feet high, hewn in a conical form, walled over and surrounded by a ditch or moat 1200 feet in circumference. In Peru there are the traces of still more ancient works, such as the Bridge near "Los Reyes" with its rude arch composed of two stones joined together at an angle, the "Strada degli Incas," the tower "Cerca del Pueblo de Chupan" and vestiges of the city walls which recall the features of Pelasgic construction, while in the monoliths discovered at Tihaonaco" may be discerned a resemblance to the Menhirs of the Celts.

It would scarcely do to close this very cursory notice without mentioning the "Templo del Sole" in the valley of Pacachamac, the edifice sacred to the light-giving, life-giving Deity worshipped so universally under so many different appellations and aliases all

over the habitable globe in antiquity. The date assigned to the erection is anterior to the Incas period.

Mediaeval Architecture.

BYZANTINE, SARACEN, ROMANCE, GOTHIC, REBIRTH.

Byzantine.

BYZANTINE.

BYZANTINE. Byzantium was the name of this city previous to its refoundation by Constantine from whom it was renamed Constantinopolis or City of Constantine. According to tradition its origin on the Golden Horn ascends to the times of the Argonauts, that is, B.C. 1330. Byzas of Megara, who gave it its earliest authentically recorded appellation, landed here in B.C. 658 with a band of emigrants and chose this site, so favored by nature, for the establishment of a colony.

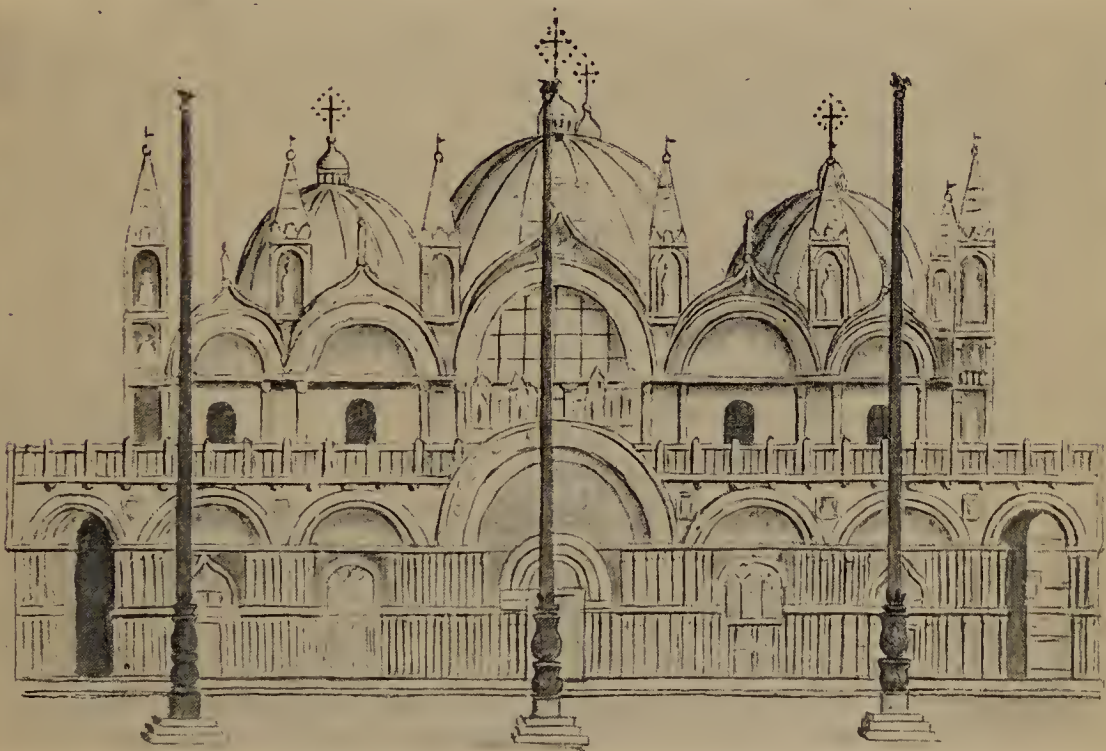
The many vicissitudes of this famous City, the irruption of the Persians under Darius, its devastation by the savage Thracians and Celts, its subjugation to Athens, its destruction by Septimius Severus, its elevation to be the Metropolis of the Eastern Empire, its conquest by the Ottomans are all events pertaining strictly to the domain of history.

Paganism was not only adequately but magnificently and exquisitely housed in the artistic Temples consecrated to its Deities, Christianity in its turn when it had reached its zenith did not intend to be absolutely outshone in this respect by its predecessor, either by sinking merely to the position of tenant of Temples converted into Churches or by erected religious edifices of a manifestly inferior description. In the north and west this religious spirit sought to realize its aspirations by the retention on the one hand of the Roman classic architecture and on the other by the introduction of the Romance-Lombard, Gothic and Rebirth styles, and in the East by the Byzantine, while Mahomedanism was represented architecturally by the Saracenic.

This said religious spirit being therefore the main factor and agent in the formation of these styles it followed automatically that their principal productions should be sacred edifices, of which the highest



Church of S. Sophia (Interior), Constantinople. A.D. 537.



Church of S. Mark, Venice. A.D. 828.

expression is the Christian Basilica, which was a church, built however on the model as regards plan of the ancient Roman Basilica, which was a Law-Court.

The date of the formation and establishment of the Byzantine as a separate architecture is still a disputed question, some fixing it at the reign of Justinian I. (A.D. 527-566) others at that of Constantine about two centuries earlier.

The first of the two is however evidently the correct one seeing that Constantine and his associates were not known to possess any sort of talent for the Fine Arts and what little they knew was entirely a decadent Roman and moreover that the first important construction of distinct Byzantine architecture was the Church of Sta. Sophia at Constantinople which was erected A.D. 530-537.

This edifice with that of San Vitale at Ravenna also of the VI century, the Cathedral of Aquisgrana in its most ancient section, A.D. 796-804 and that of S. Mark's in Venice are the most notable and probably the most typical specimens. On this architecture two others evidently exercised an influence.

The Roman classic as was natural because Byzantium originally formed part of the Roman Empire and because the Roman classic was the universally dominant type, and secondly the Oriental style owing to the situation and intercourse of Constantinople with the East.

Broadly speaking the predominating features of the Byzantine is the hemispherical outline, adopted internally in the series of arches surmounting columns and externally in the multiplicity of cupolas, the entablature as it is understood by classic architecture being suppressed. The various types of capitals introduced were not classified into Orders as with the Græco-Roman styles. They were mostly either of a vase-like form resembling the Corinthian or a species of dual capital composed of two rectangular sections both narrower at the bottom and superimposed on each other.

The first consisted of a sinuous, intertwining foliage usually of acanthus with small volutes, the second was decorated with figures of birds, amphoræ, etc., and complicated ornamental patterns. The most typical Byzantine capital is that with a vase, stouter and less

graceful than the Corinthian, with a circular plate in the centre on which is generally carved a cross emblematic of its origin and purpose, crowned by an abacus usually narrow, double and ornamental over the two small volutes of double revolving lines, the whole resting on an anulus either of the ordinary kind or of several circles.

The shaft is generally low and slender, though we have specimens which are neither the one nor the other, the base as a rule consists of two toruses and a scotia in their usual respective positions standing on a broad plinth. All this is to be understood in a general sense because as already said no absolute canons can be laid down in respect to this architecture. Carving and painting of images of Saints, Biblical scenes, various patterns, etc., figure very profusely with mosaics on the walls and other available spaces and an infinity of costly variegated and multicolored marbles are frequently used.

By the Russians, who adopted this Eastern architectonic style as they embraced the Eastern Christian Church, A.D. 955, both from Byzantium, it was modified in consequence of the different nationalities comprised in this vast State and also by the conterminous peoples, notably by the Persians, and even by the Chinese and Tartars, whose impress is evident in the form of the cupolas resembling that of the onion, by the structure of the columns and pillars, by that of the towers, by the intricate workmanship, etc., so that Russian architecture may not inaptly be termed an Asiatic Byzantine.

Another offshoot of the Byzantine is the Armenian architecture dating from about A.D. 550 to A.D. 1300, that has been by some often described as a link though not a first rate one, between the Byzantine and the Saracen. The most ancient Armenian Churches were cut out of the hill-flanks, somewhat similar but inferior to the Indian Rock-temples. The exterior of the Cathedral of Api presumably of the XIV century, is mainly Byzantine and especially so in the supporting pilasters. In their treatment of the interiors of their buildings the Armenians betray a lack of knowledge and development in their structural and still more in their architectural work.

Saracen.

SARACEN.

SARACEN. Meanwhile between the closing of the VII century and the opening of the VIII another architecture, variously designated as the Saracen, the Arab and the Moorish, was in the process of formation.

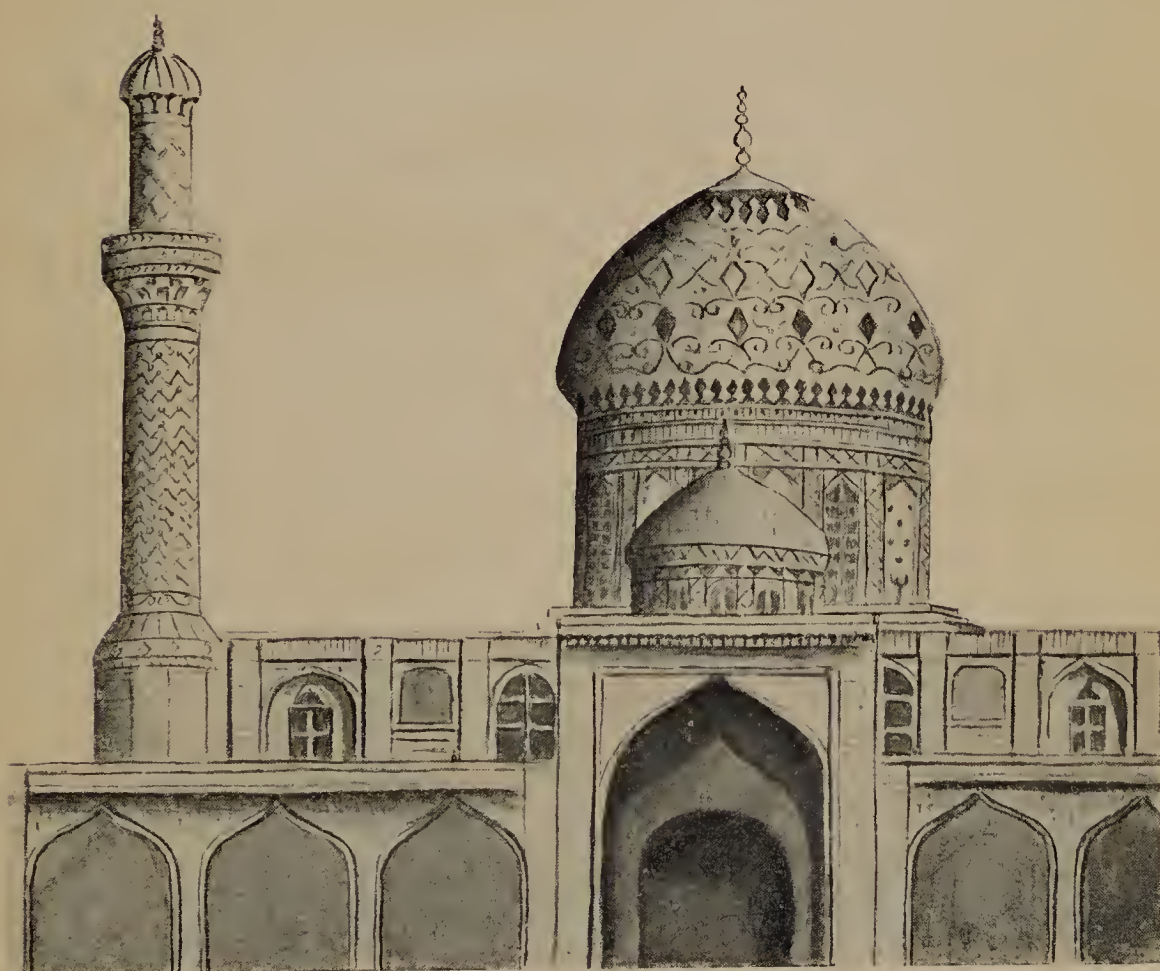
This architecture has been divided by some authorities into two distinct branches in accordance with the countries in which the Arabs established their dominion, that prevailing in Egypt, India, Greece and Sicily being called Saracen, that in Spain, Moorish.

The differences observable in these works may however be attributed chiefly to the usual stages that architecture like everything else traverses, and in a secondary degree to the local influences but not entailing any fundamental diversity of type or style because the general and distinctive characteristics of this architecture are common to both varieties.

These features are broadly the more or less pointed horse-shoe arch with its outline either following a consecutive curve or a sequence of smaller horse-shoe semicircles, by the various ornate cupolas, by the graceful minarets, by the species of projecting trellis-work called the "Meshrabeyah" of the windows and doors with their ornamental frames, by the slender araeostyle colonnades with their peculiar capitals, by the perforations practised in the arches, partitions etc., by the lofty ceilings and walls covered with enamelled majolica, gold, carving, painting, elaborate mosaics and arabesques in an infinity of design, finely and accurately executed so that they seem to suggest that the Arabs sought thereby to exhibit almost every possible combination of geometrical figures, by the fountains and open decorated courts, by the fine pavements and by the costly and varied material, all co-operating to present a



Mosque of Ard-ur-Rahaman, Cordova. A.D. 786.



Mosque of Ahmet Khiaia, Bagdad.

whole of this architecture in its prime distinguished by a picturesque magnificence and elegant lightness.

There is a considerable diversity of decoration in the column capitals but they almost uniformly have four identical faces, with a high ornamental abacus which in this architecture is often the main member of the capital placed over a generally smaller vas consisting of the reproduction of some foliage or of stalactites, the latter a much favored decoration also for other sections, bound by annulets at the bottom, besides which the shaft slender and not high is frequently provided with circlets at the top and the bottom with a base of two or three torusses and a low broad plinth.

The cornices are furnished either with modillions or small arches. The cupolas are of four kinds. Those describing a circle at the bottom merging into a convex curve in the middle and terminating in a concave top, those of a conical shape throughout, those of a long cylindrical body and those of the Byzantine type. Sometimes these cupolas are placed on a quadrangular base. The minarets consist of three sections. The highest a slender cylindrical figure standing on a sort of balcony for the " Muezzin " which constitutes the second or middle section that is of greater circumference necessarily and may be either circular or octagonal which in its turn rests on the third an equilateral, quadrilateral base. All, cupolas and minarets alike, being crowned by an oval or spherical unit bearing the emblematic Crescent.

The Mosques have also been classified into four categories. First, the Tomb-Temples mostly of cubical form, surmounted by the cupola with long arched windows and doors, the latter sometimes square-topped, of which the Tomb-mosques of the Kaliphs of Cairo, said to be the most ancient Mahomedan buildings, are considered the best examples. Secondly, those of circular or polygonal conformation with a pronacs of arches and columns and surmounted by a cupola of which the Mosque of Omar erected on the ruins of the Temple of Jerusalem is considered an excellent specimen.

The first of the above types was usually adopted for the edifices of minor importance whereas the second was preferred for the first-class buildings. Thirdly, the rectangular variety in which the cupola

is omitted, of these the finest example is supposed to be the Mosque of Cordova. Fourth, those displaying a patent affinity to the Byzantine for which it is asserted the Basilica of Sta. Sophia served as a model and of which the best example is a modern one, the Mosque of the Citadel of Cairo.

The famous Alhambra (in Arabic Kelat-al-Hamrah or the Red Castle so called on account of the color of its brick-work) is an assemblage of edifices surrounded by gardens, courts, etc., that may be described as the Saracen counterpart of the ancient Roman Villas, the principal of which, the Winter Palace of the Emirs, was however destroyed by Charles V to build an inferior one for himself of the Rebirth style.

There is no doubt that there exists a certain affinity between the Byzantine and Saracen architectonic styles, that both reciprocally borrowed from each other and that, as was natural, the younger was the greater debtor in this respect. Nevertheless the Saracen can compare favorably with the Byzantine, being at once more elegant, simple and regular in profile, members and sections, and more tasteful and finished in its equally profuse decorations.

With regard to stately beauty, symmetry and grandeur it cannot of course compete with the classic Græco-Roman, it is feebler, minute in detail, comparatively low in colonnade and over ornate, but it is singularly well adapted for the conditions of the lands where it flourished and besides possessing a charm all its own, fantastical and oriental, but none the less a fascination, testifies fully also to the genius for invention and the ability for correct and delicate execution that distinguished this ingenious, talented and imaginative race.

ROMANCE-LOMBARD. There is an abundance of learned controversy concerning this architectural style. Some assert that the Romance and Lombard are two separate architectures, others hold that they are one, but that the Romance is one of the varieties of the Lombard, others that the latter is what they term "Anterior Gothic" the forerunner of the "Posterior" or "Regular Gothic," others again that it is identical with the so-called "Norman," others that it is unconnected with the latter. It would be futile and tedious to attempt to discuss these somewhat vague and conflicting

theories, which may serve as a display of erudition but not the cause of information, which on the contrary they obstruct as they are calculated to confuse rather than to define issues.

Let us endeavour to establish facts and draw therefrom the logical conclusions. It is known on the one hand that among the ruins of ancient Roman constructions there were some discovered at Spalatro and elsewhere consisting of unconventional curving entablatures, nondescript capitals, smaller solitary columns placed on brackets as ornaments and arches without attics, all in form, disposition and execution patent contraventions to the canons of the Roman classic school, and these are reproduced in the Romance-Lombard style.

On the other hand we are informed that this architecture, born in the VII century, had its cradle in the northern region of Italy called Lombardy, and these two facts while accounting for its double appellation and dual mixed nature also lead to the conclusion that it was a combination of the degenerate Roman and the Ultramontane Styles and that the predominance of the Roman element in some of its constructions and of the Ultramontane in others caused the misconception that it was not one single hybrid architecture but two separate ones.

With reference to the relations between the Romance-Lombard and the co-called Norman the following statement seems necessary and opportune. The designation of "Norman" applied by some writers and subsequently frequently adopted to indicate an independent architectural style is not well founded.

More recent studies have proved that the Romance-Lombard architecture was first introduced in Normandy by some Lombard monks, where before that time the constructions could not in any sense claim to be architectural, and moreover that the Normans, then and after uniformly availed themselves of Lombard and other Italian artists for all their works in this direction. That it was congenial and took root in Normandy as on its native soil is explained by the fact that the Longobards and the Normans were descended from the same Scandinavian stock, and that the former were the teachers as well as workers of the latter in this line, seems beyond a doubt

in view of the other fact that Longobard civilization, and therefore architecture, partly formed and greatly developed by the influence of the artistic Italians, was of an earlier date. It being evident therefore that the Normans had no part either in the invention or the work of this architecture the epithet of Norman affixed to it is obviously a misnomer.

How came it then to be credited to their account at least in name? The Normans, like the rest of their kin, a migratory and conquering people, brought with them this architectonic type to the countries where they settled and imposed their dominion, such as England and Sicily, the inhabitants of which, ignorant of its origin and production, naturally but erroneously called it "Norman Architecture," and thus this term arose from the circumstances of conquest and ignorance and its use perpetuated to this day, like so many errors and inaccuracies, by custom.

The principal features that characterize the Romance-Lombard are briefly the following. The Roman Arch is retained, but its soffit instead of being pannelled or smooth is composed of several semi-circular arches the summits of each being successively engaged in the next one and marked by robust rods or groins, and this form given to the interior of the arch is accompanied by a change in its sustaining pillars which are arranged in groups or seried range.

The elegant Roman "Columnæ Structiles" placed at the angles or immediately behind the Columns, to fortify the buildings and support the entablature, are represented by stout plain piers. These two constructive systems passing subsequently to the Gothic, are, with the Rose windows and the corbels mainly responsible for the aforesaid confusion respecting the separate identity of the two styles.

There is a variety of capitals ranging from an irregular Corinthian to a rough cube narrowed down at the bottom to meet the shaft, the latter being of cylindrical shape without any or very little extension or reduction from top to bottom, the abacus generally strong and plain and either rectangular or consisting of two circles with the horizontally very narrow intervening concave space, and there are also variously shaped bases, one often affected being the classic

CAPITALS.

*Byzantine.**Saracen.*

“ Attic.” The columns are either in groups as aforesaid or standing singly, in the latter case they are rather squat and of a remarkably sturdy and robust girth.

The fashion of horizontal alternating bands of differently colored stone is frequently adopted especially for the outer pilasters, walls and pinnacles. The vaulting of these edifices was usually large and heavy but rendered less so in appearance by the ornamentation, which was also applied to other parts of the building and mostly consisting of tortuous interlacing zigzag lines forming by their evolutions open spaces of all sorts and shapes, oval, round, square, triangular, etc. But besides this species of decoration the Roman ovumanchoræ moulding was preserved only the eggs are of half the length and the intersecting anchors are suppressed, while the Græco-Roman denticulus is represented by the “ Saw-Tooth ” or “ Dog-Tooth ” moulding.

The cupola adopted in the canonical hemispherical conformation and the many windowed steeples are frequently too high in proportion to the body of the buildings and the slanting roof is sometimes surmounted with loggias. The sculpture of the Romance-Lombard in its reproduction of human and animal figures, though it afterwards improved somewhat, was at the beginning and as a rule decidedly ungainly in outline and rough in execution, the heads being often so disproportionately large as to represent, no doubt unintentionally, deformed or dwarfed creatures. In their treatment of inanimate objects they were far more artistic, the foliage, flowers, fruits and other fanciful designs being well conceived and wrought.

This architecture, essentially a transition one, presents as a whole a sober, robust, monastic but not unattractive aspect, together with the evidence occasionally obtruding of the conflict of the two styles yoked in one but not completely amalgamated. Among the specimens of the Romance-Lombard may be cited the Cathedrals of Modena, Notre Dame of Poitiers, of Bemberg, the churches of Sta. Maria at Lucca, of San Lorenzo at Segovia, of San Zeno at Verona and the Abbey of Chiaravalle.

Gothic and Rebirth.

GOTHIC.

GOTHIC. This race, from which the architecture in question derived its name, originally inhabited the land bordering modern Prussia from the Vistula to Braunsburg and were first called *Gythones*, only assuming the designation of Goths in the III century, in which period they were considered by the Romans as the most terrible of all the barbarians. They subsequently spread themselves over several parts of Germany, the Balkan regions, Italy and Greece, in some parts establishing their dominion and ruling well, in others overrunning the country and then withdrawing ; and later they were divided into Ostrogoths and Visigoths, the latter principally occupying Spain and Africa.

The reason of bestowing the appellation of Gothic to the architecture we are dealing with, is still an unsolved and mysterious problem seeing that its creation cannot or at least has not been yet specifically attributed to any particular people or country or fixed at any precise epoch. The theory more generally accepted however is that the primitive Gothic was first adopted in France about XI or XII centuries and afterwards extended to Germany, where it attained a high degree of perfection, and to other countries, and that it flourished till the XIV century though its decline commenced in A.D. 1400.

It is noteworthy that while there is no apparent argument in favor of the choice of the Gothic as the name there is the following very strong one against it. The first genuine specimens of this architecture authentically known are of a period not prior to the XI century, that is to say, several centuries after the Goths had ceased to figure in the roll of nations. In consequence many writers noting and objecting to the above inappropriate term, inexplicably selected, have suggested others, such as the "Ogeval Style," the

"Ascendent Style" or the "Teutonic Architecture," the first and second because the Ogee is one of its special features and its numerous vertical lines, another, and the third name, not unreasonably, because the Goths were of the German stock, and, because it reached in Germany a great degree of development. But the proposed substitutes do not satisfactorily meet the exigencies of the case, considering that the two first, though among its chief characteristic features, are neither its only distinctives nor exclusively the property of the Gothic, and the third is inadmissible on the ground that Germany, so far as we know, cannot or at least has not as yet advanced a claim to be the only or even the first country in which this architecture originated or was introduced.

Nevertheless it is not quite beyond the limits of possibility that a more competent and diligent research might yet result in the discovery of its inventor or at least of the land of its invention. In the meantime till something more satisfactory than mere vague hypotheses is established we will continue to call this architecture, Gothic in virtue of the "Divine Right" of custom. In Germany it was denominated the "Posterior Gothic" to distinguish it as already mentioned, from the Romance-Lombard with which it had some affinity and which preceded it.

With the Gothic not only a new style of striking individuality in Mediæval architecture was constituted but also a new departure was inaugurated, because, unlike its immediate predecessors, it was used to an equal or almost equal extent for secular as well as for religious edifices. Its characteristic features are briefly as follows. The groined vaults and arches, the more or less acute form of the latter, the Rose-Windows, the grouped columns mostly with circular abacus, a vas composed of leaves, oak, rose, violet, etc., resting on the usual anulus, a base of two toruses on a polygonal or circular plinth usually the former, two or three times as deep as the classic plinthus or its other mediæval counterparts, the rods, groins or cordons of its hemispherical sections, the frequent reproduction of the trefoil, quadrifoil, cinquefoil, rose, violet, etc., the reticulated figure in rectilinear, curving or undulating lines, the creeping plant and perforation designs, in which the trefoil shape was much favored, of

its decorative branch, the stout rectangular piers as supports, the multiplicity of statues and statuettes on the doors, pinnacles, piers etc., the steeples with their pyramidical summits and the central naves of churches far larger in dimensions than the aisles.

The First Stage or Lance-Gothic. In this period roughly calculated as between A. D. 1200 and A. D. 1300, the form of the arch is of the more acute variety, the principal doors are often surmounted by an independent triangular section, a great depth is assigned to them inwards and the interior of the groined arches are sometimes decorated with statues, the arched windows are long and narrow, the capitals of the columns are simple consisting mostly either of a double or of a single range of leaves with their tips curled over or "Hooked." The vaults are of a bold and light build and their not complicated system of groins curves upwards to meet at the top of the concave vault in an ornamental key. The piers or buttresses sometimes reach, at others surpass, the height of the walls.

The steeples are provided with narrow arched windows or bold arches decorated with colonnettes and terminating in quadrangular, hexagonal, etc., pinnacles. The ornamental sculpture is fine but the statuesque is more rudimentary. Among the many examples of sacred edifices of this category may be mentioned the Cathedrals of Bordeaux, Tours, Amiens, Fribourg and the Church of Holyrood.

The Second or Ray-Gothic. In this period the capitals are more richly ornamented with a varied foliage often arranged in garlands and the shafts are slenderer. The shape of the vaults and arches less acute and following rather the equilateral triangular figure and the groinage is at the same time more complicated. The windows are larger, bisected by fillets and crowned by ornamental arched mouldings. The Rose-windows are composed of rays in various elegant patterns.

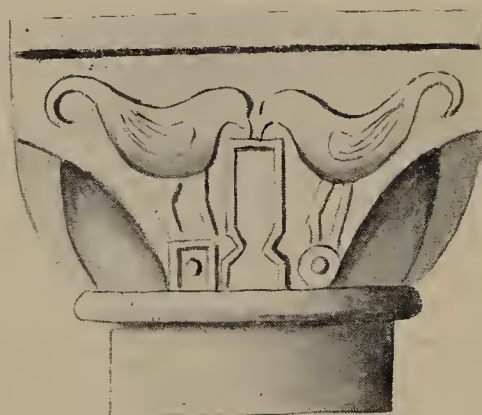
The arch of the main-door and even occasionally the façade are artistically decorated with graceful designs of foliage, fret-work and open-work. The pinnacles, frequently garnished at the angles with a projecting species of huge denticulus with wide open spaces between the curved teeth, spikes or tusks. The balustrades consist either of pillarets or of perforation of floral patterns. The cornices

CAPITALS.

ANTERIOR GOTHIC.

*Romance.**Lombard.*

POSTERIOR GOTHIC.

*Gothic.**Gothic.*

REBIRTH.

*Rebirth.**Rebirth.*

not very projecting are likewise ornamental and based on a series of brackets or small arches.

The more important churches have generally three doors on the façade, the use of chapels is introduced for the lateral naves and the Choirs amplified and embellished. To this category belong among others the Cathedrals of Cologne, Valenza, Antwerp, etc.

The Third or Flame-Gothic. This stage is distinguished above all by the disposition given to the prismatic rods that pass from the base of the column up the shaft and by the capital in an uninterrupted line curving to culminate in the keystone of the vault which is finely carved and lengthened downwards so as to form an ornamental pendant suspended from the centre. The arrangement of the cordons and fillets in general is sinuous and takes the shape of a flame in the elaborate net-work. The incisions of the carving are deeper, especially for the capitals, and therefore the decoration is more forcible, and with the other ornamental foliage, the creeping plant with shoots and tendrils is much favored. The windows are larger than those of the preceding periods, and intersected rectilinearly, obliquely or undulatingly by fillets and cased in ornate arches and frames. The steeples and belfries are as a rule slenderer and often covered with ornamental mouldings and carvings. The cupolas of the canonical form, and the statuary artistically wrought. Among the religious edifices of this stage are cited as good examples, the Cathedrals of Orleans, of Nuremberg, of Ratisbon, of Canterbury, of Evreux, etc.

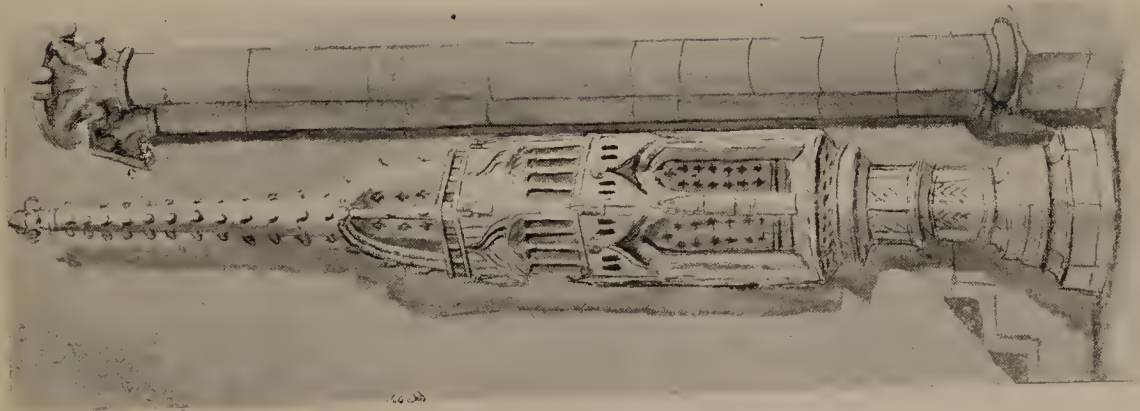
The secular edifices of Gothic architecture, not inferior in any respect to the sacred ones, naturally differ from the latter in conformation, decoration, members and plan. To attempt a specific and detailed description of these would be in any case an arduous task and in the present one also incompatible with the work in hand, but dealing in generalities it may be said broadly that, the arch-form adopted is always of the more or less pointed, acute type, the roofing is either flat or when slanting stands out on a flat terrace that exceeds it bordered by a bracketed parapet on which are erected a range of ornamental units of various kinds. The two or more stories of a building consist externally, on the façade, of arches resting on their supporting columns,

The arched windows are of greater size. The fret-work and network are retained covering sometimes the entire exterior also further ornamented by medallions, the fillets that bind the arch are often indented in profile and ornate and their tympan sometimes cut by an opening of a trefoil shape. The columns are in some instances bulky, in others slight, of various forms, either smooth or ornamented, in the latter case often profusely from capital to base as we see for example in the Palazzo Vecchio Renaissance of Florence. The entrance gate gives access to an open decorated court in the more important edifices from which a broad flight of steps leads to the usually lofty, ornate and spacious apartments of the buildings.

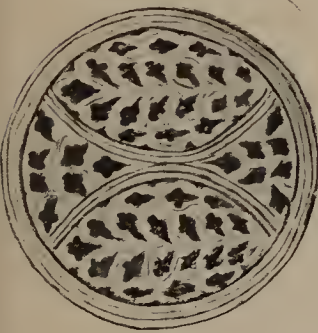
The Gothic was used for all sorts of constructions besides Churches and Palaces, such as castles, chateaux, fountains, chiosques. Among the numerous examples of the public and private architectural edifices may be sited, the Palais de Justice at Rouen, the Palais Cluny in Paris, the Palazzi Del Bargello, Davanzati in Florence, the Mansion-Houses of Louvain, Andenarde, Piacenza, the Ospedale Maggiore of Milan and that of Baune, the palaces of Venice, such as the Ducal, Foscari, Ca d'Oro, Franchetti, the Law-Courts of London, etc.

But besides the stages cursorily indicated above, there is another classification of the Gothic based on its international character, that is to say, arising from the differences observable in this architecture in the various countries in which it was adopted and on which it is incumbent to touch fleetingly. In France, its first recorded home, the deviations resulting from local and national influences are few, with some rare exceptions such as for instance the towers of Notre Dame in Paris and of the Cathedral of Amiens, and probably these were not completely finished. Over the crossing point of the great nave with the transverse one the French Gothic Churches were almost always provided with a pinnacle of modest dimensions, the doors were usually divided into two parts by a pillar and over the principal entrance is invariably a large Rose-Window.

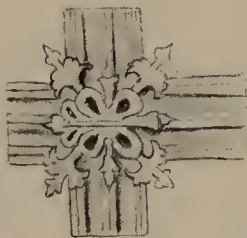
In Belgium the Gothic is held to be a direct offshoot of the French. In England, after the Romance-Lombard merged into the Norman or Anglo-Norman, the Gothic was introduced from France which assumed in England a more marked individuality and was divided into



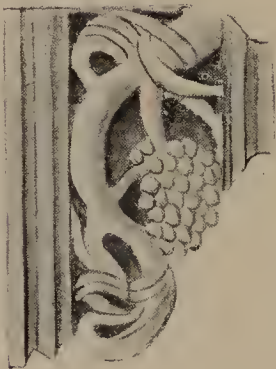
Section of Cathedral, Semur.



Rose Window.



Keystone.



Bracket.



Cornice.



Frieze.



Balustrade.

three periods or categories, that of the XIII or Early English, that of the XIV or Decorated Style and that of the XV or Perpendicular Style. The Gothic Churches are here as a rule of much greater length in proportion to their breadth than those of the continent and there are instances of some like the Salisbury Cathedral whose length is traversed by a second Nave resulting in a double cross. For the summits of steeples, belfries and towers the flat is substituted to the pyramidical form with some exceptions such as for instance the Cathedrals of Lichfield and Lincoln.

Under the Tudor dynasty a new conformation of arch was introduced and sometimes adopted in place of the canonical acute type, it was in shape a broad triangle, a specimen of which may be seen in the east door of the Winchester Cathedral. The sacred edifices were often flanked by two towers as in the case of the Cathedrals of Canterbury and York and are extended by a chapel behind the Choir called the "Lady's Chapel," such as that of Westminster Abbey, etc.

In Germany too the Gothic has also some special features. The lateral and other towers are given an acute, high pyramidical form beginning near the basement like the Cathedral of St. Stephen in Vienna. A species of pronaos is also sometimes added as for instance with the Cathedrals of Ratisbon and Nuremburg. In Spain the Gothic is overcharged with decoration and moreover the ornaments do not all belong characteristically to this architecture. It will perhaps suffice to cite the entrance-door of the Mausoleum of Don Miguel at Batalba and the spiral piers of the Market of Valencia to give some idea of this peculiarity due to local influence.

In Italy the Gothic was mainly a continuation and development of the Romance-Lombard. Among its characteristics are the variety affected in the column capitals, shafts and bases and the walls composed of alternate bands of, and the mouldings inlaid with variegated marbles, as for instance the Church of Sta. Maria del Fiore. The building material being also of superior quality permitted them to erect such Churches as Sta. Maria della Spina in Pisa, an architectural jewel entirely of white marble. The only regular Gothic Church in Rome is Sta. Maria Sopra Minerva.

With reference to Sicily, Mediæval Architecture there, is of so mixed a nature that there can scarcely be pointed out one building in which the Romance-Lombard or Norman and the Saracen styles are not to be found jumbled together or placed side by side or overlapping each other and though this combination has as a rule a grotesque and discordant result, it is in some cases not altogether unattractive and is calculated to excite an interest arising from the very combination of heterogeneous elements.

The class of constructions in which the Gothic of all nationalities had most points in common were the Sepulchral. The Tomb-stones, very much alike in the simplest and the sumptuous, are rectangular slabs placed over the graves bordered by Gothic letters with the effigy of the deceased in a recumbent position generally in low relief with images of Saints and allegorical ones of the Virtues under a canopy. The Gothic art as aforesaid did not shine in the sculpture of figures, which were rigid and roughly executed, and the same reproach may be made relatively to their painting, owing partly to their lack of knowledge of the rules of perspective and proportion. There were also some more rare examples of Sarcophagi with the figure of the deceased not in relief but as a recumbent statue, but in all more or less the artistic conception and delicacy of touch are wanting, as compared to the ancient classic.

The Gothic architecture as a whole possesses a character the merits of which though undoubtedly predominating over the defects are nearly balanced by the latter. On the one hand the bold, fine aspiring acute figure of its arches, pinnacles, spires and steeples, its lengthy perpendicular lines, its curved groinage, its lofty vaults and its decorations in the branch consisting of the graceful foliage, flowers and perforated, reticulated and undulating work are well calculated to endow it with an air of incisive fineness and imposing distinction. On the other, the frequently low stature of the building comparatively to its dimensions and the height of its towers, the multiplicity and intricacy of the carvings jagged and twisted into all sorts of shapes with the monstrosities sometimes attached called "Gargoyles" the continual recurrence of second-rate statuary, and, another disadvantage, the inferior quality of the material used, indigenous of

the majority of the countries where this architecture was adopted, friable and easily discolored, and necessarily rapidly deteriorating under the climatic conditions prevailing that inevitably entail a crumbling and effacement of the sculptural details, especially the external, and give to the structural parts a dingy, dismal, decayed appearance, all combine to detract from its artistic and æsthetic value.

This estimation must not be understood of course as applicable to all the Gothic edifices everywhere of which there is such a variety, for many are composed of excellent and even costly materials and exhibit in their style, though strictly typical, a happy combination of the chaste, bold and graceful attributes. In other words, speaking in a broad and general sense, this architecture may be described as a body of attractive members and in part becomingly adorned but often composed of inferior substances and in some respects anomalously and inharmoniously arranged, attired and decorated.

The wide dissimilarity between the Græco-Roman Classic and the Ultramontane Gothic is calculated to produce a profound difference of impression on the beholder, all the greater when his feeling and thinking powers are more developed. The grandeur of the latter is indubitably very imposing, but this effect is of a serious almost of a melancholy nature, there is something cold and gloomy as well as impressive in the sensations it calls forth, while the exquisite beauty and majesty of the classic creations combining supreme art and peerless materials to nature's accessories of a lovely climate and coloring endow them with a seductive almost sensuous charm such as no other architecture is capable of inspiring.

REBIRTH.

REBIRTH. This age is usually known by the designation of Renaissance but as the text is in this case in English and there is in this language a synonymous word to express the same thing there is no apparent or forcible reason to borrow one of another tongue. This period, comprising broadly the XIV, XV and XVI centuries, was a very remarkable, important and interesting epoch of the

history of Europe and therefore of the Universe. It was an awakening from the troubled, secular slumber of the peoples with regard to literature, science and art, after the disruption of the Roman Empire and the constitution of States based on the Feudal system.

Throughout these dark times literature of an inferior standard languished, such as it was chiefly in the hands of the religious and especially the monastic corporations, science was at a very low ebb, and of all the Fine Arts numbed and crushed, architecture alone continued to live, a lower life indeed, but still really to exist and assert itself, owing to its indispensability as the vital provider of the practical needs and ideal wants of human nature. But this era was epitomized and signalized not only by an awakening, but as its name denotes, also by a resurrection.

The number of eminent literary, scientific and artistic men produced by this singularly prolific era aspired to resuscitate the ancient classic, and the latter flocked to Athens, Heliopolis, etc., and above all to Rome to seek among the ruins of the architectural and sculptural masterpieces of the Classic Ages their inspiration and guidance, but still they were naturally unable to emancipate themselves altogether from the influence of the elements around them of their times. In consequence the Rebirth architecture was not a perfect and complete resurrection of the Classic but rather a liberal imitation of it engrafted on mediæval structure with some variations of the architects of the epoch.

We therefore find revived again the classic Architectonic Orders, but modified in a more ornamental sense and applied in a reversed method chronologically. The Rebirth artists, lovers of the highly ornate, preferred and began by the Composite and Corinthians to end by the Dorics and Etruscan, indeed the latter only appeared when the Rebirth had entered its second stage, the so-called Cinquecento or Five-hundred style. The Ionics too, consistently occupying the second place, were used but much less frequently than the two first named Orders.

The Rebirth Composite, the favored Order, and the Rebirth Corinthians had the abacus perfectly Roman, but the vas was often composed of diagonal or reversed volutes or in place of them by



Cathedral of Breisach, Baden.

cornucopia, busts, heads, etc. Sometimes there was only one range of leaves, the lower, and the upper substituted by carved, heads, targets, eagles, fruits and flowers, the latter emerging from elongated recipients.

The Ionics also were reformed or deformed according to opinion and taste, though in ours the latter epithet expresses better the alterations effected by the addition for instance of a garland between the two volutes or by their substitution by two bells joined horizontally together with their mouths turned outwards, etc. Even the severely plain Doric capitals were not spared but were charged or enriched by festoons, dentels, etc.

The shafts assumed a diversity of shapes from the smooth or fluted tapering classic to the spiral, the candelabra, the ophtic or serpent, consisting of two snake shafts interlaced in the middle, the so-called "Binnate" etc. Another peculiarity of the Rebirth shafts was also the application of circlets, plain and ornamental, medallions and tablets, either carved or inlaid of the same marble as the shafts or of other variegated colored marbles. The bases were usually "Attic" and their mouldings were often ornamented. The entablatures entirely Roman, the cornice frequently sculptured with flowers, masks, various designs, etc., besides the canonical ovumanchoræ and dentels. The Friezes also adorned with varied reliefs and the Architraves mostly of the Roman type.

Sometimes the columns of the same colonnade were not uniformly of an identical Order or decorations, a license not in accord with the classic precepts and rules. The vaults were often cut in lunettes and their soffits and those of the arches exhibit an ornamented surface of panels, bosses, rosettes, etc., in relief, inserted or painted. There is much diversity of shape and style as regards the doors and windows, rectangular, arched or flat-topped, flanked or bisected by colonnettes. The doors frequently surmounted by a cornice that exceeds their width and rests on the flanking columns and the windows sometimes stand on a zocle narrowed downwards like a reversed cone. These apertures were also occasionally artistically cut in perspective so as to give the illusion of a greater depth. The niches, tenanted or tenantless, and the cupolas, likewise distinctly Roman.

The buildings, of almost every shape, terminated either in a loggia supported by pillars, in a terrace or in slanting, flat or conical roof. The façades often very handsome of the two, three or more storied edifices, commence frequently from a ground-floor consisting of alternate bands of different coloured stone or cut in diamond or other patterns with arches and windows intersected by pilasters, the upper tiers more ornate and the angles occasionally decorated with pinnacles; and there are also Rebirth buildings in which an ornamental terra cotta casing is applied externally.

But to enumerate and specify all the decorations, configurations and innovations introduced by the artists of the period in their Rebirth, which was not and never claimed to be an absolutely new style of architecture of their own invention, would be for the majority a superfluous undertaking and in any case unsuitable for a work of this nature.

During the latter part of the Middle Ages a tendency to return to the classic school particularly with regard to the stupendous ancient Sepulchral Monuments had already begun to manifest itself, and to this reaction the Rebirth gave a mighty impulse and development by co-ordinating and establishing as a concrete system the aspirations and evocations towards a great past from which the peoples of those times were separated by the gulf of Mediævalism gradually drying up.

The Rebirth sculpture, whose pioneer and regenerator was Niccolo Pisano A.D. 1200-1270, may be defined as an ingenious and as far as possible a perfect imitation of the Classic, but it would be doing less than justice to its great artists if we did not recognise that they also added something of their own in the elegance of pose and attitude and the fine minuteness of detail of their statuary as well as of their elaborate decorations, and as regards their painting it would be a supererogation to commend or eulogize it, as the productions of Leonardo, Raffaele, Titian, etc., can well vie according to the general consensus of competent opinion with what we know of those of Zeuxis, Apelles, Parvasios, etc., of antiquity.

Italy was naturally the centre as well as the birthplace of this architecture, owing both to the nature of the Italians, so pre-eminent-



Westminster Abbey (Interior), London.

ly artistic and to their descent as the direct, lineal offspring of the ancient Romans from whose creations the Rebirth originated.

The Italians of Central Italy furthermore justly claim to be the sole people in the world who can boast of not one only but of two conspicuous and brilliant artistic existences separated by a lapse of over twenty centuries, that of the Ancient Etrurians and that of their descendants the Mediæval Tuscans. In these conditions it followed that the Italian artists and artisans became more than ever the rage and were in constant requisition everywhere for the construction of edifices of this architectonic style, which passing the Alps penetrated into France, Spain, Germany, etc., and even Russia (where we hear of a Solari of Lombardy participating in the building of the Kremlin at Moscow) and produced many monuments worthy of note and admiration. Among the multitude of these may be mentioned the following. The Palazzo Pesaro and the Scuola di San Rocco in Venice, the Cathedral of St. Peter and others in Rome, the Cappella dei Pazzi, Palazzi Rucellai and Pitti, the Tombs of Marzuppinì and Portogallo at Florence, the Church of Santo Spirito and the Ridotto dei Mercanti at Bologna, the Casa Fontana and Del Banco Mediceo in Milan, the Bottigella, Certosa and Tomb of G. G. Visconti at Pavia, the Casa Modiglioni at Lodi, the House of Francis I, at Orleans, the Louvre and Fontainebleau, the Gewandhaus at Brunswick, the Zwinger and the Catholic Church at Dresden, the Mansion-Houses of Paris and Beaugency, etc.

It was at one time assumed as an article of faith that the celebrated Donato Lazzari, better known as Bramante d'Urbino, A.D. 1444-1514, was the initiator of the Rebirth but the fallacy of this contention has been demonstrated by the fact that not only the movement towards Classicism had commenced long before his time but that the Rebirth Monuments wrongly attributed to him that occasioned this error, were the work of artists, such as Brunelleschi, Michelozzo, Avelino and others, whose period of life and action were considerably anterior to his, though Bramante of course effectively co-operated in the initiation, development and establishment of this regenerated Style.

This architecture was the practical embodiment of a frank, full

and unstinted homage rendered to the ancient Classic which proves two things, first that it was only such genius and taste as the great artists of the Rebirth possessed that enabled them to adequately appreciate the fact that the Classic was the highest known expression of architectural Art, and second a tacit and implicit recognition by them, despite their rare merits, of their inability to conceive or invent what would have been the object of their ambition, viz. : any other architectonic style superior, or equal and quite different.

But if the extraordinary and versatile capacity of these Rebirth men be unquestionable, if they do not occupy a position of a manifest or even appreciable inferiority to those of antiquity, how is it that they could not accomplish anything approaching to what their predecessors achieved ? The responsive inference is obvious, they could not create anything better or different because their was nothing better or different to create.

The Rebirth traversing the Cinquecento stage, otherwsie that of A.D. 1500, degenerated subsequently into the " Barocco " and " Rococco " styles between the XVI and XVIII centuries, which as their very names denote were extravagant and bizarre evolutions of the Rebirth. In these we find a greater estrangement from the pure classic school, a deterioration arising from a further departure from the rules of harmony and sequence, the partial abolition of the rectilinear figure, the application of queer and heterogeneous decorations and the lack of a well defined character.

Nevertheless some of the constructions of these styles were not devoid of a certain capricious and attractive elegance, and the Rococco succeeded better in its productions of a smaller scale such as furniture, utensils, and similar articles in which it sometimes rivalled those of art at its best periods.

The revival of the Classic in the Rebirth was the most significant sign that the architectonic art had run its course of inventive productivity and completed the circle of its existence in that respect. If this were not so, if its creative powers in this sense had not been exhausted, the artists, who were the authors of the Rebirth with their talents, imagination, originality, supereminent skill, whole-hearted devotion, high ambition and indefatigable zeal, backed by the generous

protection, competent and enthusiastic appreciation and almost unlimited resources placed at their disposal by the enlightened and powerful art patrons of the day, would have succeeded in inventing something entirely new as well as beautiful in this direction. And it is indeed unlikely to say the very least, that what the wonderful Buonarrotti and his compeers with all their exceptional advantages and opportunities failed to achieve as beyond the bounds of possibility, that is to say, a new architecture, others less favored by this singular and rare combination of felicitous circumstances would be or even will be able to perform, and up to the present the test of time and experience has proved the truth of this contention up to the hilt.

If any geometrical figure were to be chosen as the one dominating mundane concerns, it would be the circle. The world, the basis of everything terrestrial, is round. Man himself in his individual as well as collective capacity is another illustration of this axiom.

The person or the nation, when not broken or severed prematurely by catastrophies, that complete their existence, describe an entire circle, the debility, crudeness and imbecility of their extreme infancy, the beginning, being met and paralleled by those of their extremes enlity, the end. "Les Extrêmes se touchent" says the French proverb, that is, they touch or meet not only in union but also in sequence and similarity. Architecture constitutes no exception. The extreme Pre-Classic or Pre-Historic age is met by the extreme Post-Classic or Modern. Both these periods are identical in that both have equally been unable to produce an architecture of their own.

The first had no regular teachers the second too many, but the result is the same in this respect. The primitive peoples had rude constructions but no architecture, the modern have instead a conflicting and overwhelming multiformity of buildings, many indubitably very fine, but all of them creations or copies of the creations of preceding generations, and therefore again no architecture of their own. The conclusion is self-evident. Architectural Art with regard to its inventive and procreative powers has described the circle of its existence and is therefore dead in this sense. It may still perform miracles, but they can only be likened, to adopt a religious

simile, to those attributed to a dead Saint by his devotees, proceeding it is true from him alone, but owed entirely to his anterior state of existence, and in consequence by no means claiming to be the discoveries, inventions, or achievements of a present, actual, living man.

Orders of Classic Architecture.

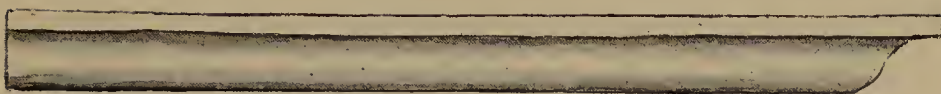
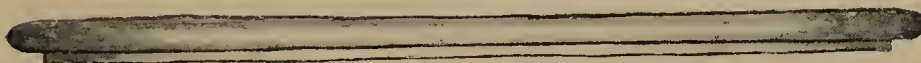
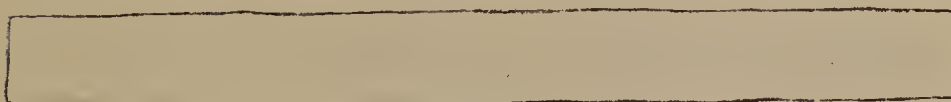
ORDERS OF CLASSIC ARCHITECTURE.

When the construction of buildings had developed into architecture thus attaining the rank of a Fine Art, the usual consequence followed, its practical branch was supplemented and completed by the theoretical, which proceeded to regulate and define this Art by dividing it into Orders, by laying down its canons and by applying a terminology to its several styles, sections, units, members and mouldings, without which literary existence no human knowledge in any direction can be organized, perfected, permanently established or properly taught.

Some writers, especially the earlier ones, recognise only three Orders viz : the Doric, the Ionic and the Corinthian, others further reduce them to two, the Doric and the Ionic, but though they have followers, even among posterity, it is evident that this limited and imperfect classification, the result of their rudimentary knowledge or of the fact that the other Orders had not then yet been invented, is wholly unfitted to describe and inapplicable to the ancient Classic European Architecture in all the several distinct forms, types, and styles of its full development, which accordingly has been defined and divided later severally into Four, into Five and into Eleven Orders as follows : Four, viz : Etruscan, Doric, Ionic and Corinthian ; Five, viz : Etruscan, Doric, Ionic, Corinthian and Composite ; Eleven, viz : 2 Etruscan, 3 Doric (Greek, Graeco-Roman and Roman), 2 Ionic (Greek and Roman), 2 Corinthian (Greek and Roman), 1 Caryatide and 1 Composite. The first two of these classifications are elementary and incomplete, the third and fourth though also incomplete are the most usually accepted and the fifth is the most accurate and definite but not the most generally recognised.

ETRUSCAN. Although two Etruscan Orders, distinguished respectively as the Rectus and Curvus, undoubtedly existed, never-

CLASSIC PLAIN MOULDINGS.

*Cyma Recta.**Cyma Versa.**Depluvium.**Ovulo.**Cavatio.**Anulus.**Apophyge.**Scotia.**Torus.**Plinthus.*

theless when dealing with the Etruscan Order the first alone is understood to be referred to as the sole representative type of this architecture. With regard to the second, the *Curvus*, some specimens were discovered in the Tarquinian Hypogaeum at Cervetri consisting of broadly fluted pilasters with capitals having an affinity to the Ionic, the main difference between the two being that with the Etruscan the volutes are smaller and carved on the body of the capital and that the ornamental moulding called the *Ovumanchorae*, the indispensable feature of the Ionic capital, is absent in the former. It is known that this Etruscan Order was also subsequently used for pilasters, a conspicuous instance of which is offered by the famous Mausoleum of Mausolus, and to our day it has served in the same capacity as a model, but whether the *Curvus* was adopted in the column formation and function for buildings, exclusively or with other Orders, has not been ascertained.

There is, it is true, in the British Museum in the Etruscan annex, a reproduction of a capital the original of which is said to have been found in a vault in Etruria and there is no doubt that this specimen has far more accurately than the others the canonical volutes of the Ionic, but it differs from the latter in the four intervening human busts which replace the regular *ovumanchorae* of the Ionic capital.

The accounts referring to this capital are exceedingly vague and while some are of opinion that it is a genuine Etruscan work, others maintain that it is a Roman one after the incorporation of Etruria in the Roman Kingdom. But besides its general design and execution which certainly favor the second hypothesis as they are obviously of a considerably later period than that in which Etruscan national architecture flourished, one fact alone ought to settle the question, and that is the four busts, seeing that the Etruscans were not known to favor the admission of sculptured human or animal figures on their capitals, whereas the Romans sometimes though rarely affected this species of decoration for theirs, a deviation not admitted or practised by their pure classic school. But in any case the above mentioned discovered pilasters suffice to establish the fact that there were two Etruscan Orders.

Of the Rectus too, the progenitor of the Roman Doric, with which owing to a general resemblance it is frequently confounded by the uninitiated, less is known than of the other classic Orders either from surviving ruins or from documentary sources, and the date of its invention and the name of its inventor are alike unrecorded. Although as previously mentioned in page 43 Vitruvius alludes to this Order in the same favourable spirit in which he treats Etruscan architecture in general, it is very cursorily and somewhat vaguely referred to, quite differently to the explicit and satisfactory manner he employs in dealing with the other ancient classic Orders, and it has been treated in a similar fashion or overlooked by the other more ancient authorities such as Turchenius and Pythius as by the more modern ones such as Vignola and Scamozzi.

The abacus of the Etruscan Capital is a plain rectangular slab, a halved cube or dado placed horizontally, having a depth measuring one fifth of its length, its echinus is identical to the Roman in shape with the difference that the Etruscan is bound at the bottom by one listel while the Roman Doric rests on three joined together; the collus, anulus and apophyge being precisely alike in both.

On the other hand a diversity is to be noted in the form of the respective shafts of each, the Etruscan diminishing more markedly in circumference as it proceeds upwards from the imoscapus to the summuscapus than its lineal descendant the Roman Doric.

The Etruscan base is the simplest of all, with the exception of those which consist of the plinth alone, being composed of one torus and the plinth. The Etruscan entablature, strictly of the Latin school in shape and profile but absolutely undecorated except for the necessary fillets to mark the component sections, is composed of a cornice consisting of the Roman cyma, corona, ovolo and cavetto, of a frieze a plain flat band and of an architrave of two facias, the greatest depth is assigned to the cornice, then comes the architrave and the narrowest is the frieze or middle section.

The intercolumnation appears to have been uniformly Aerostyle and the entire architecture harmoniously plain and simple. It must not be inferred from this that the Etruscan architectonic style was

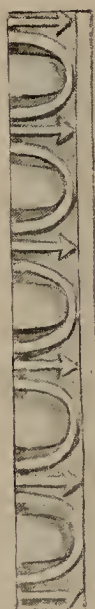
CLASSIC ORNAMENTAL MOULDINGS.



Astragalus.



Denticulus.



Ouurmanchorae.



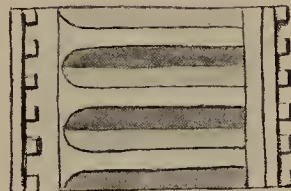
Encarpus.



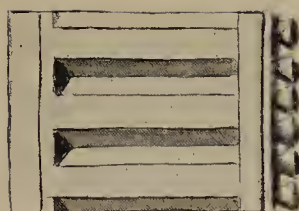
Antefixus.



Triglyphus.

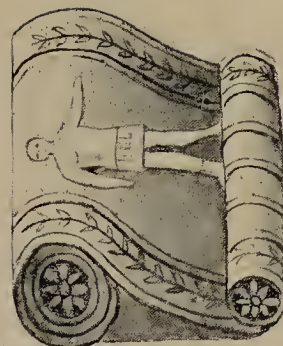


Greek.



Roman.

Mutulus.



essentially inferior to that of other ancient peoples but rather as before remarked that the ornamental held a subordinate position to the structural, due in all probability to a diversity of circumstances and times. The columns, pillars, pilasters were obviously intended principally as supports for walls and roofings internally and to flank gates or border walls or bridges externally and for these purposes they were admirably suited and quite sufficiently ornate, and though, as aforesaid, they were also adopted unattached as the decorative colonnades of an edifice, their simple character was even in these cases preserved with a not unattractive effect of its own.

According to the best available accounts the Etruscan edifices of Rome that approached to some extent to the stately and ornamental standard were the Temples of Jupiter on the Capitoline Hill and that of Diana on the Aventine, both totally vanished. The most notable specimen perhaps existing of this Etruscan Order is the series of columns of the lowest tier of the Flavian Amphitheatre of Rome; for although the Rectus was also chosen on account of its solidity and extreme simplicity of outline and moulding as peculiarly fitted for the Monumental, isolated Columns, the Columnae Duilia, Trajani and Aurelii of this Order are so highly decorated that they recall the Etruscan style only by their general forms and cannot therefore be cited as entirely typical examples.

The remote origin of the several architectonic members has been traced as deriving from the various sections of the rudimentary dwellings of primæval ages. In the course of time with those races that were susceptible of a higher and finer culture and gifted with greater inventive faculties the beautifying hand of magic Art gradually transformed the rough buildings of prehistoric peoples into the artistic creations of their civilized descendants.

The layers of wood, stone, or other substances that composed the primitive roofing of the rude huts, mostly of timber and turf, were metamorphosed into the architectural "Cornice," the boards or slabs added under to give it a greater height became the "Frieze," and the beams laid horizontally beneath, the "Architrave" or "Epistylum," constituting thus the "Entablature." The walling consisted usually of tree-trunks set upright and joined together in

a greater or lesser proximity to each other, and when instead of interstices there were spaces these were filled up with boards and earth.

Thus the smooth-barked trunks were the rude parents of the smooth-shafted columns and the seamed or lined barked-trunks similarly of the fluted shaft. The two blocks of timber or stone placed respectively over the highest extremity and under the lowest extremity of these vertical trunks to provide in both cases a broader and fitter support and protection were developed into the "Abacus" and the "Plinthus." The coils of cord and rope wound round the top and bottom of the trunks for the purpose of strengthening them and preventing their splitting owing to the weight and damp were represented in an embellished and almost irreconisable form by the "Listels" the "Anulus," the "Apophyge" and the "Torus" while the "Scotia" represents architectonically the hollow or concave spaces between the convex encircling ropes binding the bottom, the Apophyge, Torus, Scotia and Plinthus forming together the beautiful classic column-base.

DORIC.—This Order considered in its earliest type, because it was afterwards divided into three Orders, is, with the exception of the Etruscan, the most ancient, simple and massive of all the Classic Orders of Architecture. It is, similarly to the Etruscan, the artistic offspring, the beauteous genuine reproduction in stone, marble, and other materials of the primitive trunk and turf dwellings of the remote times in which it was invented. But it was not merely an embellished copy for some additions were introduced.

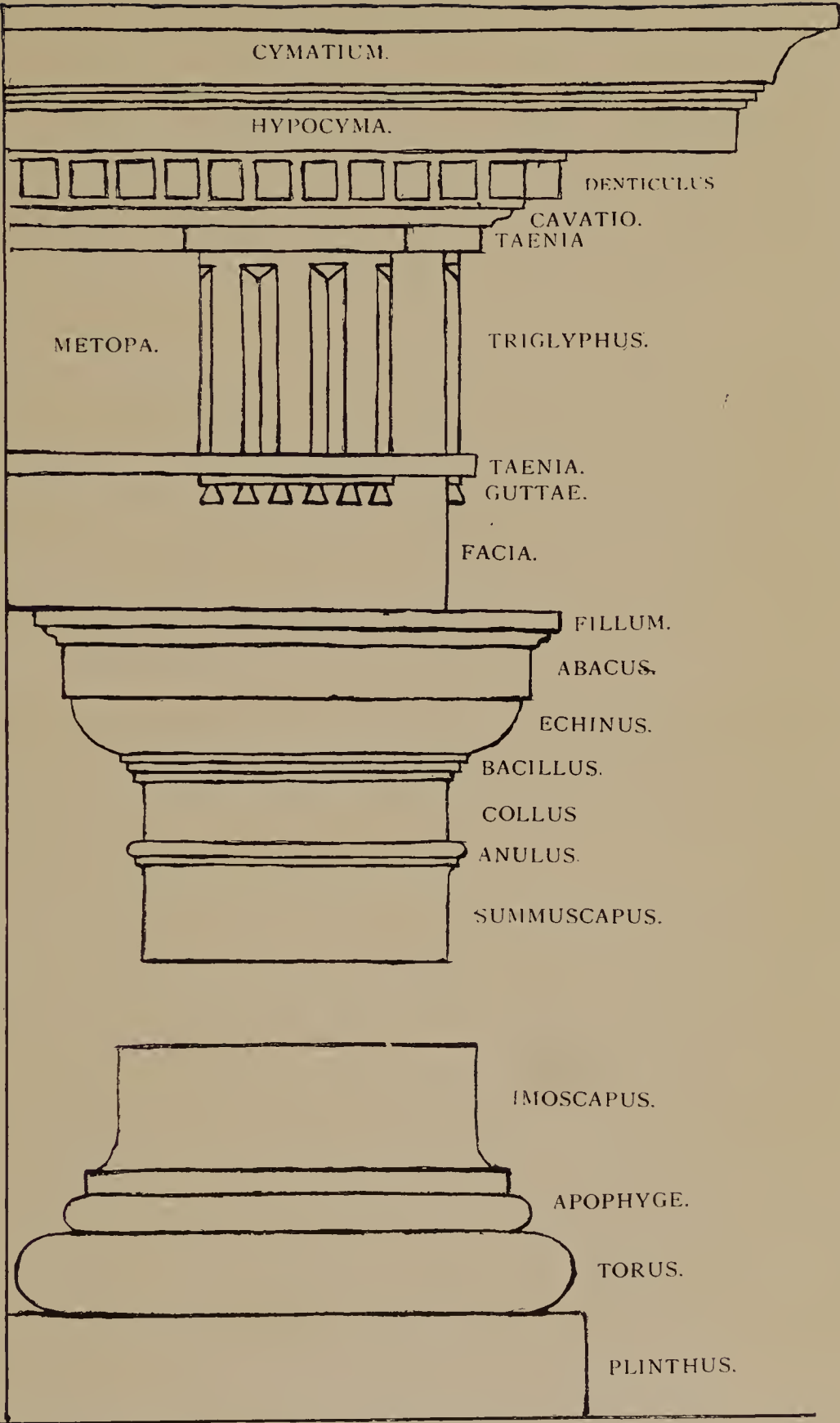
The irregular channels caused by the wear of the running water from the slanting roof with its ephemerally suspended drops were transformed into the permanent artistic "Triglyphs" with their appended "Guttae." The projecting ends of the "Interpensivae" or rafters gave birth to the ornamental moulding called "Denticulus" and later also to the more ornate "Mutulus" or Bracket-ornament.

According to the dictum of certain modern archaïologues this Order originated in Egypt, where among the excavated Tombs of Beni-Assan and the ruins of Thebes a species of rudimentary Doric column was discovered. This hypothesis was however subsequently

TABULATIUM

COLUMNNA.

BASIS. SCAPUS. CAPITELLUM. EPISTYLUM. ZOPHORUS. CORONA.



disposed of negatively, in the first place because the typical Egyptian structures bore no resemblance to those of Europe in which this Order occupies such an important post, and in the second because it was ascertained it appears that these rudimentary columns were of a more recent date than those of the Greek Doric of which on the contrary they were assumed to be in consequence a copy introduced by the later Ptolomies with modifications more in harmony with the sombre and less elegant Egyptian style of Architecture.

The designation of "Protodoric" arbitrarily given to these columns is therefore an anachronism as well as an inaccuracy. Vitruvius, the most reliable authority in these matters who published a Treatise on Architecture in the reign of Octavianus B.C. 30—A.D. 14, attributes the creation and name of this Order to Dorus mythologically the son of Neptune and historically the son of Helenus and the nymph Optice, and whichever paternity be accepted, fixes the date from the time of the Trojan war B.C. 1194-1184, or about twelve centuries prior to the advent of Christ.

Dorus built a Temple to Juno at Argos in which the characteristic features of this Order in an elementary form were first it appears used, and this example was followed by other cities of Achaia and later by the Olympians who erected a Temple to Jupiter of the same Order but of superior architecture and similarly another to Apollo by the inhabitants of Delos.

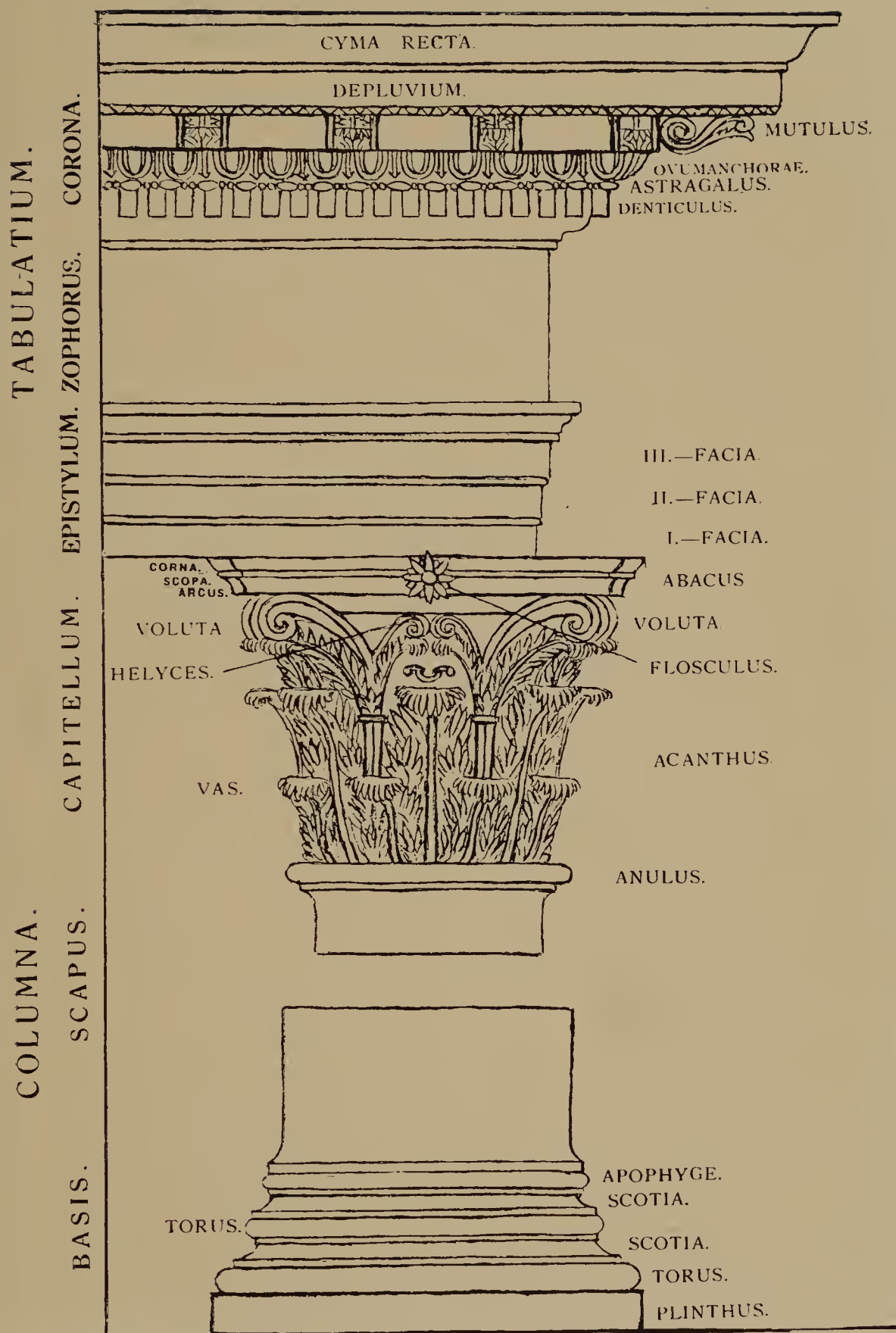
Giacomo Bardozzi di Vignola A.D. 1507-1575 collaborator of Primaticcio and Bramante in the construction of the Vatican, designer in part of the Escorial and whose masterpiece is considered to be the Palace of Cardinal Farnese at Capraro, but whose best claim to renown is his "Treatise on the Rules of the Orders of Architecture," recognises and defines two distinct Doric Orders, the Greek and the Roman, and hints at or allows the existence of a third intermediate one, the Graeco-Roman, which partakes of both, and the two first are certainly dissimilar enough to admit of a third independent Order born from them. The differences between these three types are specified by the above authors and others and confirmed by the existing ruins.

The Greek Doric capital has a plain, strong, rectilinear, rectangular abacus similar to the Etruscan, only larger, with a depth one sixth of its length, its echinus describes a parabol bound at the bottom by three joined listels and often a taenia or band beneath them, and a little lower down, leaving a slight space between, a circular line is drawn round the neck. The stout shaft diminishes in circumference from the bottom upwards directly and very sensibly. The anulus, apophyge and the base are omitted.

The profile of the entablature projects a little beyond the outer line of the substanding column and is composed of a cornice of one flat narrow rectilinear, rectangular member bordered by two fillets, one above and the other below it, the upper being wider than the lower and generally ornamented. Owing to the aforesaid projection of the entablature the triglyphs of the frieze are not all uniformly placed in a perpendicular line corresponding to the centre of the columns beneath, the triglyphs at the angles reaching the profile of the frieze, their grooves are rounded at the top and double the width of their intersecting femorae and the six guttae are square in shape. Under the cornice and surmounting therefore the triglyphs and metopes a series of six guttae are placed at intervals thus substituting the denticulus.

The quadrangular Metopes may be either plain or decorated, in the latter case usually with carved trophies, bosses, or groups of human and animal figures illustrating historical or mythical scenes, the Greeks often favoring reliefs of the latter character for their Metopes of which we have several examples among others the frieze of the Temple of Salinunto in Sicily and those preserved in the British Museum in London. The architrave consists of a single broad facia. The depth assigned to the entire entablature is one fourth of the height of its supporting columns, while the altitude of the latter was fixed in the earlier ages at five or four or even less of its own diameter, but later increased to six times and sometimes even over, and the depth of the Doric capital was likewise one sixth or less of the length of its own shaft.

ROMAN. The abacus of this Doric capital of a depth measuring one fifth of its own length, was (with the rare exceptions when it was



plain and like the Etruscan and Greek), composed of two sections, the lower a flat band, the other surmounting it, is a projecting moulding consisting of two fillets the upper flat and rectangular, the lower concave and cut sinuously at the extremities. The Echinus describing the fourth of a circle in shape rested on three united listels, below which comes the collus or neck sometimes decorated with the flosculi and bound by the anulus. Although the circumference of the shaft diminishes as it rises from the imoscapus to the summuscapus the gradual tapering of the Roman columns is slighter than that of the others and does not always proceed directly from bottom to top, being sometimes interrupted by the "Enstasis" or slight swelling nearer the base than the neck of the column. The base assigned to this Doric is composed of two tori, the upper narrower than the lower, resting on the indispensable plinth.

The height established for the Doric column, comprising capital and base each one module in depth, was from six to eight times its own diameter and exceptionally even nine times. The depth of the Roman entablature following the general rule measured one fourth of the length of its accompanying columns, and consisted of a cornice of four members, viz : cyma, a hollow moulding surmounted by a flat band, a corona separated from the cyma by a double fillet, an ovolo and a cavetto or denticulus and tænia under.

The triglyphs, the indispensable feature of all the Dorics, in the Roman are placed half a metope distant from the frieze profile and correspond vertically with the centre of the respective column underneath each, of which they measure half the width. The triglyph grooves are square-topped and of the same breadth as their intervening femoræ and the guttæ, invariably six in number, are of a cone-like or pyramidical shape.

The metopes, equilateral quadrangles, may be either decorated or undecorated, in the first case generally with sculptured flosculi, bosses, trophies, helmets, heads and especially the bull's skull as peculiarly harmonizing with the strong character of the Doric. The depth of these two sections, cornice and frieze, is about equal and broader than that of the third, the architrave, which consists of one broad facia. The profile of the Roman Doric frieze and archi-

trave and the outer line of the substanding column follow one perfectly perpendicular line.

The date of the creation of this Doric and the name of its inventor have not been, so far as we know, recorded. It is conjectured that the separation into two Orders was affected as early as four centuries before the Christian Era, but the first building of importance in Rome of which traces have survived in broken fragments in which the Roman Doric was adopted for the lowest story, is the Basilica Aemilia erected B.C. 179 in the Roman Forum. As aforesaid the Romans used their own Doric on very rare occasions exclusively for any of their edifices, although it is surmised that the vanished Regia Numæ in the Forum Romanum and the Domus Publicæ of the Campus Martius were of this Order, and Hadrian's stupendous Mausoleum is cited as an instance among others of its adoption for the ground-stories of edifices. But the sole existing specimens now so far, in Rome, are the solitary Doric pilaster of the Basilica Julia in the Roman Forum, and the range of those half-submerged by the rising soil belonging to the lowest tier of the Theatre of Marcellus near the present Piazza Montanara.

GRAECO-ROMAN. It has not been ascertained when and by whom this hybrid Order was first introduced in architecture. Speaking broadly it favors the Greek in the capital and the Roman in the base, greater height and outline of shaft, while the entablature partakes also of both, in the adjustment of the profile relatively to the columns, following the Greek, and in the shape of the triglyphs the Roman, the disposition of these ornamental units, which were more numerous, differed in that they were placed on the frieze in the empty spaces over the intercolumnation as well as over the column.

The best known example of the Græco-Roman Doric is said to be the Temple of Hercules at Cora, a town about 60 miles from the Eternal City, a most interesting ruin, which it is stated, the celebrated Palladio as well as other eminent artists repeatedly visited and studied as a model of its kind for the works they were called upon to execute.

The grooves of the fluted shafts of all the Dorics are invariably broader and shallower than those of the other Orders and divided

vertically only by their own edges in place of fillets, and they are also in consequence fewer than those of the others, varying in number as a rule from 14 to 18 for each shaft, which may be either entirely or partly fluted. In the latter case the fluted portion generally occupies the upper two thirds of the shaft and the lower third may be either perfectly smooth, or if not, then the grooves are continued down but much shallower and more faintly traced and are termed "Patellæ" or Pans.

The Greeks adopted the fluted columns far more generally than the Romans which may be accounted for by the fact that with the former the Doric was "the Order par excellence" and as such intended to combine the ornate with the strong, whereas with the Romans' though used for decorative purposes it was primarily regarded for its aptitude as the support of those parts of buildings where strength was the first object. Nonetheless the Roman Doric could well compete even from the ornamental standpoint with the Greek.

The Roman is robust as becomes its character and purpose but not so robust as to verge on the cumbrous and heavy, the bolder and clearer cut and proportions of its graceful entablature and triglyphs, its columns with their more finished capital, greater height, and less marked tapering of shaft, (when the unsuitable Enstasis was not intruded), with the harmonious base omitted by the Greeks, invest it with elegance without taking away from its strength, a combination which is not so striking in the Greek type especially when its lower and weaker entablature and the cone-like shape of its baseless columns are more strictly applied.

IONIC. The honor of having invented this Order has been ascribed to Ionius, son either of Apollo and Creusa or of the latter and Xuthus her mortal husband, and if the second version be accepted Ionius was the grandson of Helenus, who gave a name to the most eastern of the three southern European Peninsulas, and nephew of Dorus the inventor of the Greek Doric Order.

The accounts transmitted to posterity relating to Ionius are as usual in events of that period partly legendary and mythological and partly traditional and historical. It appears that Xuthus and Creusa had no offspring and that Apollo not only induced the husband

to believe that Ionius was his (Xuthus') son, which he was not, but, what was far more difficult, persuaded Creusa that he was not her son which he was. According to the saying "It is a wise child that knows its own father" and it might logically be added also vice versa, wherefore to convince Xuthus of his supposed paternity was no impossible feat, while to persuade Creusa, a mother, that the infant she had given birth to in propria persona, was not her child would not have been a facile task for anyone less than a God; nor are the motives of this strange double-sided proceeding on the part of Apollo, that nearly ended in a family tragedy, at all explained.

In any case he was so completely successful that Creusa tried to poison Ionius under the impression that he was an interloping stranger who was usurping the rights of her son whom she had lost sight of. The God of Light in his paternal solicitude warned Ionius in time of the danger that menaced him and Creusa being convicted of the attempt was sentenced to death by lapidation, otherwise to be stoned to death, for in those times they did not play at penalties for offences, whether attempted or accomplished.

To escape this fate she fled to a sanctuary but was on the point of being dragged away by her unknown son when Apollo again interposing, this time in favor of his paramour, sent an anonymous Goddess to reveal to both their mutual relationship advising them at the same time to allow Xuthus to remain in the belief that Ionius was his own son, thus also conferring a favor or a blessing on the putative father, for "Ignorance is Bliss" at least on certain occasions and this one may perhaps be considered a case in point.

By the above opportune intervention and revelation accompanied by the no less prudent reticence, the impending catastrophe was averted and it seems everyone concerned satisfied. It may be observed in connection with this fable that the choice of Apollo among all the Polytheistic Divinities to beget Ionius is not the result of indiscriminate, casual or fortuitous selection but of a peculiarly suggestive and appropriate preference for the Patron-Deity of the Fine-Arts to be sire and inspirer of the terrestrial creator of one of them. And this will cause no surprise to those who can and will look below the surface realizing that Mythology rightly understood and inter-

puted, apart from its miracles which were intended to give it the authority and weight of the Superhuman, was essentially a symbolic and representative Creed and a comprehensive, logical and consistent theory applicable to all human circumstances and events ; and the glamour of its poetic and voluptuous character, coloring and accessories was nowise calculated to detract from, but rather to enhance its prestige with sensual, imaginative and æsthetic races.

To resume, the above is briefly the legendary account of the parentage of Ionius and history records of his subsequent career that he led a tribe of Thessalians to Attica and Peloponnesus which they occupied, and taking their leader's name were called Ionians. These settlers were afterwards driven out of the Peloponnesus but remained in Attica from whence some of them emigrated to the adjacent Cyclades and Asia Minor where they founded the colonies and towns of Ephesus, Eretria, Liban and others. All these colonies formed a Confederation styled " Panionius " or " All Ionian " and Ionius during his sojourn in these regions erected a Temple to Apollo Panionius as the Patron-Deity of the above League, in which for the first time the Ionic Order was regularly adopted, and later another similarly to Diana (theologically Apollo's sister and therefore Aunt of Ionius). As the aforesaid Apollonian Temple was built, it is asserted, between 1100 and 1080 B.C., the birth of the Ionic as a distinct Order may be calculated at rather less than a century later than that of the Doric and at about eleven centuries prior to the Christian era. The introduction of the Ionic Order or of its modified duplicate, in the Roman architecture, has been dated approximately at B.C. 540-500, as is also testified by the existing ruins of the Temple of Saturn (B.C. 497) and that of Fortune, presumably an earlier erection.

After rudimentary construction had been discarded architecture took as a model for the standard measurement of columns the well proportioned human figure that ought to measure in height six times the length of its own foot or six times the length of its own head and face, and hence assigned six diameters to the columns of ordinary medium size. Ionius, however, evidently desirous of rendering his invention more elegant and commanding, departed from this general rule and allotted eight diameters of the column to his Ionic, inclusive

of capital and base each occupying in depth half a diameter or one module, and these are the standard proportions retained for this order up to the present times. Vitruvius, fixes the canonical height of the Ionic at $13\frac{1}{2}$ to 14 modules and Palladio at $12\frac{1}{2}$ to 13, which is a somewhat lesser altitude. This Order is characterized by a feminine, elegant but matronly softness in contradistinction to the masculine severity, strength and simplicity of the Etruscan and Dorics, and, holding an intermediate place between them on the one hand and the Corinthians and Composite on the other, is slenderer and more ornamental than the former and less ornate and imposing than the latter.

When therefore the Ionic was chosen for religious edifices it was mostly adopted for the Temples dedicated to Juno, Minerva, Cybele and Ceres, the stately and matronly Goddesses, or if for Gods, then in preference for the Temples of Apollo, Bacchus, Mercury and Aesculapius, the less prominently masculine Deities. In connection it may be mentioned that when the celebrated Hermogenes undertook the construction of the Temple of Bacchus at Teos he rejected the Doric although the marbles were already cut, and substituted the Ionic Order as being more in harmony with the soft, sensuous titular Divinity.

The chief distinctive features of this Order are the volutes with the intervening ovumanchoræ of its capital, but it also possesses an individuality of its own with regard to its entablature, dimensions of shaft and form of base. There are three versions concerning the origin of the volutes.

Some authorities opine that the shape and lines of these members was suggested by the manner in which women arranged their hair with two coils one on each side of their forehead, others that the idea first arose from the curled horns of rams, and others again from the convolving lines of shells. As the ancient Greeks were an æsthetic race by temperament, a pastoral people by occupation and inhabited a peninsula with an extensive sea-coast indented by numerous bays and gulfs with sands abounding in shells of every description, the assumption that the architectonic volute may have arisen either from viewing the folds of their womens' head-dress or

from contemplating the curled horns of their flocks or from inspecting the spiral lines of the shells strewn on the sands of their shores, furnish three quite possible alternatives. But if we are to judge by similarity and logic the second and third conjectures are the more probable because the volutes of the earlier Ionic variety resemble far more the marked curved outlines of the ram's horns than the uncertain, wavering ones of the side coils of a woman's hair, while the later type of volute with its numerous but clear-cut lines is the counterpart of the shell's delicate convolutions.

This theory is confirmed from another point of view. All artistic inventions and productions derived in origin from nature's creations, and rams' horns and shell lines are both nature's handiwork whereas the coiffures of human beings are variable, ephemeral and artificial combinations. The origin of the ovumanchoræ is as yet obscure but some surmise that the ornamented circlets or bands which were wound round the heads of human beings on ceremonial occasions or of animals when the latter were to be sacrificed, first inspired the idea.

The two Ionics, Greek and Roman, are more akin to each other than is the case relatively to their respective Dorics and Corinthians. The abacus in both Ionic Orders measures one fourth of the capital in depth and is cut at the extremities in a sinuous line, both have the indispensable volutes and intervening ovumanchoræ, their shafts are very much alike and the flutings in both from 16 to 20 in number, divided by vertical fillets, are narrower and deeper than those of the Dorics and broader than those of the Corinthians and Composite, and the usual bases of both are identical. The points in which the two types generally differ are the following.

The abacus of the Greek Ionic is straight, parallel and shorter than the Roman which is slightly concave, they may be either ornamented or plain in either case, but the Greek is surmounted by a fillet and the Roman divided lengthwise by a fillet into two sections and decorated in the centre by a flosculus.

The Greek capital as a rule has two parallel aspects, the lateral parts being occupied by the "Pulvini," that of the Roman is cut on an angular plan and has four equal aspects like their Corinthian

and Composite, although there have been instances where the Greek form is observed. The volutes of the first are generally more projecting and larger, and, in later times, provided with a double circle of revolving lines and sometimes with a broad ornamental band under the capital. The bases of both consist of two Tori, the lower broader and deeper than the upper, divided by a Scotia with fillets and resting on the normal plinth.

The Greeks have however, another base, their usual one as above being termed "Attic" and their second "Ionic," the latter consisting of a huge projecting Torus over two Scotiae with double fillets standing on a massive plinth. In their respective entablatures the Greek and Roman Ionics are entirely dissimilar. The entablature of the former resembles in general aspect that of their Doric, the Ionic having however, a broader cornice, being plus the denticulus and minus the triglyphs of the frieze and with an architrave of three facias instead of one.

The Roman entablature has the cornice of the four normal members, viz. :—the cyma, hypocyma, ovolo and denticulus (the latter moulding being by some authorities considered to be the special appanage of this Order), a frieze decorated frequently with the encarpus, and architrave of two or of three facias. The profile of the frieze may correspond perpendicularly with either of the two or of the three facias.

The depth of the entire entablature measures usually one fourth of the length of the accompanying columns, but occasionally less. Probably the best example of the earlier Greek Ionic Order is the aforesaid Temple of Bacchus which for centuries served as a typical model, and of the later and more ornate variety the famous Temple in Athens dedicated to four titulars, Athena, Poseidon, Erectheus and Pandrossus and commonly known by the name of the third.

The best surviving specimens of the Roman Ionic are considered to be, besides the already mentioned Temples of Saturn and of Fortune, the columns of the second tiers of the Flavian Amphitheatre and of the Theatre of Marcellus.

CARYATIDES. Although the classic and technical term for this Order, consisting of statues of human figures applied as supports

in substitution to columns, is "Ordo Caryatidus," it is divided into two branches, the female called "Caryatides" and the male "Atlantes," "Telamones" and "Persans."

The reason that the first name was adopted collectively to describe this Order in both its varieties was that it was intended to represent human beings in an attitude of subjection, and as the men of the vanquished were mostly either killed fighting or slaughtered afterwards, while to the women was allotted the safer but more ignominious fate of enslaved prisoners of war, female figures were first and more generally used for the purpose in view. The designation of "Kalathoforos" (from the Greek "*Kalathos*," basket and "*Foros*," bearer) sometimes bestowed on them, because in some instances the figures are represented with a vase or basket on their head, is an inappropriate term in connection with this Order, seeing that to be a basket-bearer was certainly not the real and principal function of the Caryatides, unless indeed Kalathoforos was used to denote isolated unattached statues, and in that case even if resembling the Caryatide type, it is obvious that they do not belong to this Order.

The introduction in architecture of this class of sustaining statuary of which there are numerous examples in the Egyptians, Assyro-Persian, Indian, Greek and Roman architectural styles, dates from a very remote period. In Egypt instances are to be met with, sometimes in relief, in their most ancient monuments, while in Persia religion seems to have first, or as some assert exclusively, made use of them for sacred edifices, wherefore these statues were also termed "Statuæ Persæ."

According to Vitruvius this Order originated in Europe in the following manner, and its introduction in European architecture may therefore, if so, be dated between B.C. 490 (King Darius' invasion) and B.C. 480-470 (Xerxes' war). The city of Caria sided with the Persians in their conflict with the Greeks and was captured in the course of the struggle by the latter, who slew the men and carried off the women to captivity.

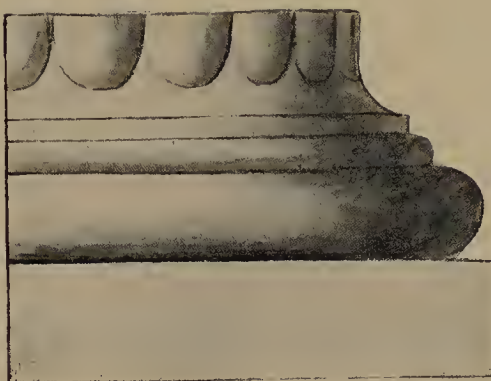
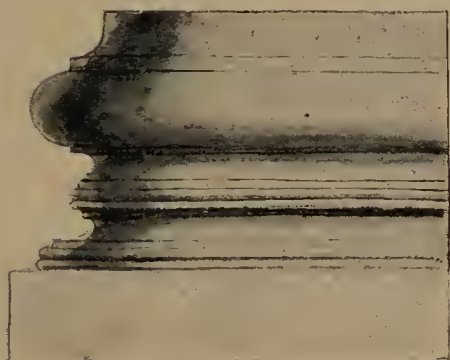
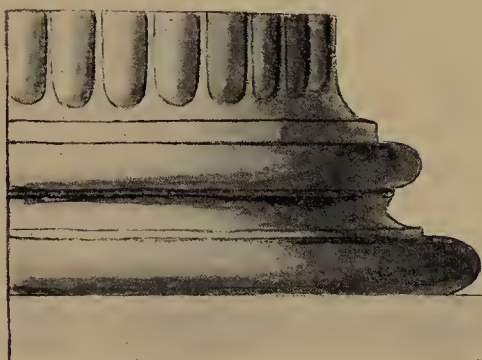
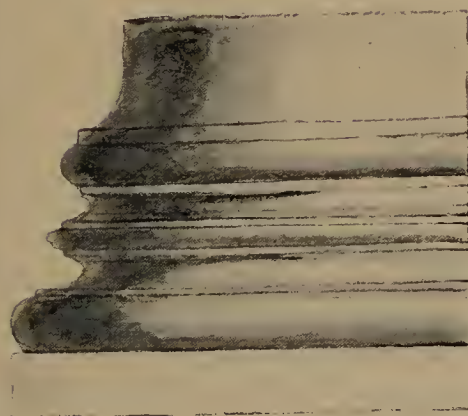
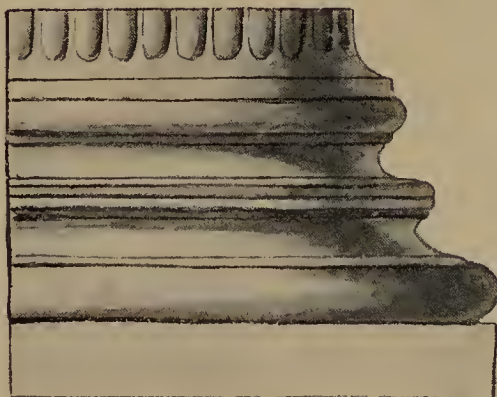
To perpetuate the memory of this triumph the victors caused edifices to be erected expressly in which these prisoners, reproduced

in stone and marble, figured in an attitude of servitude instead of columns, and when male foreign captives, fewer in number, were similarly represented, they were denominated "Persans." Lessing A.D. 1729-1782, however, attributes the origin of the Caryatides to the yearly ritual custom of the Lacedemonian women of going to the city of Caria in order to dance in chorus before the statue of Diana Caryatidæ, and in support of his theory points out that these figures were first used exclusively for Temples in proof of their religious and not bellicose origin, while the Persans were adopted for laic edifices, as for instance in the Persian Portico of Sparta constructed after the battle of Platea B.C. 479.

It must be borne in mind also that there was a Kingdom of Caria where at this time architecture had attained a superlative degree of excellence and it is therefore possible though not probable that the origin of the Caryatide Order might be traced to either of the two latter sources. All duly considered however, we may safely assume that Vitruvius' version is the most reliable, because his authority is preferable in these matters to that of others, and because with regard to Lessing's theory it was a very common occurrence for women then to observe the usual rites he refers to not only at Caria but all over Greece, so that there is no special reason to suppose that those particular females performing at Caria suggested this Order or to identify them with it any more than the thousands of others similarly occupied in the acts of dancing and chanting. In reference to the other hypothesis that this Order owes its origin to the Kingdom of Caria, it must not be forgotten that though this State was deservedly renowned for its artistic structures these were mainly the productions not of indigenous artists but of designers, architects and sculptors brought over from the mother-land who would not therefore require to go to Caria for their inspirations and inventions.

ATLANTES. A term derived from "Atlans" or "Atlas" mythologically the son of Neptune and Clitone, King of Mauritania and a famous astronomer or astrologer, the first, it is said, who calculated and measured the course of the sun, moon and other planets, and who while absorbed in the contemplation of the stars of the

BASES.

*Etruscan.**Roman Doric.**Greek Ionic.**Greek Attic,—Roman Ionic.**Corinthian.**Composite.*

firmament was transformed into a mountain of such altitude as to serve as a support of the heavens.

From this fable originated the name of "Atlantes" to designate in architecture the male figures adopted in place of columns or pilasters. These sustaining ornamental units were also called "Telamones," though the choice of this personage, the father of Ajax, is not so obvious, unless we accept the dictum of certain etymological paleologists that the word is derived from a verb signifying "to carry." The application of the third term of "Persans" or "Perses" in connection arises either from the Persian predilection for this statuesque Order in their own country or from the Persians in their character of captives in Greece, or from both.

It is worthy of note that the attitude and expression given to these figures usually differs in each sex. If females, it is in general disconsolate and depressed with the hands disposed or tied behind them and with the Roman Caryatides often with heads bent and hands pressed to the eyes weeping. If males they are represented generally in a more curved position under the weight and with a thoughtful, careworn, or ferocious expression, according as the idea of Atlans, the wise astronomer with the responsibility of bearing the heavens on his shoulders, or that of the war-captives, was the conception to be carried out.

An excellent specimen of the female branch of this Order is furnished by the Atrium of the Erechtheum in Athens, and of the male, among others, the Telamon eight feet high found in the ruins of the Temple of Jupiter at Agrigentum in Sicily. The Romans adopted the Caryatides and Atlantes indiscriminately more especially for their private residences and these have almost completely disappeared.

This Order, to which no prescribed or particular entablature or base is assigned, has a striking, animated and sometimes graceful effect, but on the whole it is rather too cumbersome to be applied with success in most buildings and has certainly never attained for obvious reasons the justified preference or importance in art of the other classic Orders.

These figures have also been used in the form of busts and
Architecture, I.

trunks, the lower members or legs being substituted by a pedestal, like the effigies of the Gods Terminus and Sylvanus, with the difference that in the case of these Deities their semi-statues are isolated, unattached and of course not intended as supports.

CORINTHIAN. There are two versions regarding the origin of this Order, and as both have competent supporters and as one version does not necessarily interfere with or exclude the other, there is no reason to conclude that the one is less authentically founded or correct than the other, and in consequence both can be accepted concurrently, particularly as the Greek architecture offers two different types of the Corinthian capital respectively representative of the two theories.

The first is that the capitals of the Egyptian Palm Order, to which this Corinthian bears an affinity in form and foliage, furnished the archetype of which the latter is the modified copy. The second, recorded by Vitruvius and corroborated by others is the following. After the burial of a young, unmarried lady of Corinth her nurse collected several little personal relics of the deceased, put them into a basket which she placed near her tomb, and in order to protect the contents, covered them with a tile as a lid. Close to or under the basket there happened to be an acanthus root which in spring shot forth its leaves, that creeping up the sides of this receptacle, and, under the pressure of the projecting tile, curling round it and spreading outwards formed a sort of leafy vase with small natural volutes and tendrils. But this unforeseen and accidental consequence of the pious memorial cares of the nurse would evidently have remained sterile as regards art, had it not been for the fortuitous and fortunate coincidence of the presence of Callimachus an artist of renown, but of unknown nationality, who chanced to be at Corinth and passing by the tomb in question at the time when the acanthus was in full bloom.

The average individual in similar circumstances would probably have proceeded on his way unobservant, or even if remarking this plant growing in the shape of a reversed bell, would have not given it more than a cursory glance or thought. But Callimachus was not an average man and therefore the effect and the result of this sight

were far different and singularly fruitful. The effect was that the novelty and grace of this attractive picture first struck his fancy, then impressed and interested his artistic nature and inventive genius, and from impression to contemplation and from them to conception, design and execution the transition stages were traversed and the result was that this beautiful Order, which might more accurately be termed "Ordo Callimachus" or Callimachus Order, was created between 440 and 394 B.C. Pausanias in writing of this famous artist attributes to him the invention of the perforation of marble also, and describes in detail an oil-lamp of solid gold manufactured and dedicated by Callimachus to Minerva that was calculated to burn uninterruptedly for one year without need of refilling.

To the loss of posterity the edifices of Corinth, the inhabitants of which had attained a high degree of development especially in architecture, were destroyed by the frequently recurring wars, mostly useless in any direction and always more or less desolating, paralyzing and brutalizing, and this was more particularly the case as regards this city's art in the siege and capture of Corinth by L. Mummius, surnamed "Achaius" for his conquest B.C. 146, which may be said to have given the "coup de grace," to Greek independence in every respect.

Thenceforth, Rome assumed the uncontested leadership in art as in everything else constituting a splendid school and style of art that reflected her genius and position as the Mistress of the world.

The Corinthian, like the Ionic, is divided into two Orders, Greek and Roman, only with the former the difference between the two types is more marked than with the latter. The Corinthian, owing to its ornate, elegant and stately character was styled the "Queen of Architectonic Orders" and consequently adopted more especially for those edifices in which an imposing magnificence of style was called for.

The distinctive and peculiar feature of the Corinthian capital is the acanthus leaf but there are two species of this plant used as models, the pointed leaf called "Acanthus Spinosus," or Thorny Acanthus favored by the Greeks and the rounded leaf curling over

the top called "Acanthus Mollis" or Soft Acanthus preferred by the Romans.

GREEK. With the possible exception of the Corinthian people, the Greeks did not as a rule use this Order for their buildings and the capitals of their two varieties differ essentially. The one, the simplest of the two, is composed of a plain abacus over a vas of two ranges of foliage, the upper of olive leaves the lower of acanthus, and closely resembles the Egyptian Palm capital not only in shape but also in the omission of the volutes and helices, the invariable appanages of all other Corinthians, wherefore this Greek variety has been regarded by some as a renegade, half-caste Corinthian.

The other type of Greek Corinthian capital is remarkable for its fine and profuse decorations of bosses, tendrils, shoots, for the deep indentation practised horizontally in its centre forming almost two vases surmounting each other and by its rather smaller dimensions. The proportions and shape of the several members of this Order have been defined as follows. The entablature, having sometimes a superimposed antefixus, is composed of a cornice consisting of a cyma recta, of a broad depluvium, of a denticulus and of an ovolo, of a generally plain frieze and of an architrave of three facias, all the three main sections, cornice, frieze and architrave, being of about equal depth.

The entire entablature measures about one fifth of the eight diameters of height assigned to the accompanying columns beneath, of which the capital occupies one diameter and the base, composed of two Tori alternating with two Scotiae bordered with listels and the plinth, one module. This is the only one of the Hellenic Orders whose capital is uniformly cut on a quadrilateral plan with four equal aspects. Two specimens are cited in Athens as examples of the Greek Corinthian, one, the columns of the Poikile referred to by James Stuart, A.D. 1732-1788, antiquary and designer, in his work "The Antiquities of Athens," and the other those, of a small monument of Lysikrates, by some conjectured to be a Cenotaph, which is in a relatively good condition.

ROMAN. This people on the contrary from the first adopted

the Corinthian either exclusively or in conjunction with the others for almost all their more important edifices, a preference that was quite natural both on account of the grander aspect of this Order and because its invention was approximately coeval to the birth of their own architecture about 400 B.C.

Its proportions, shape and mouldings, taking the measurements and definitions of Palladio who selected the Panthæum as his model, are as follows. The canonical height of the columns is fixed at 10 diameters, of which the capital occupies one diameter and the base one module. The difference between the Greek and Roman types lies principally in the capital because the bases of both are identical. The Roman capital has the form of a complete vase or reversed bell without any indentation in the middle and with four equal aspects slightly concave. It consists of an abacus one fifth of the entire capital in depth, composed of two sections, the upper divided horizontally from the lower by a fillet, cut at the extremities in a sinuous line, decorated in the centre by the flosculus and resting immediately on the small angularly cut volutes intersected by the Helices or Cauliculi (the architectural reproduction of the natural acanthus shoots) and of three ranges of acanthus mollis foliage bound at the bottom by the normal anulus.

The entablature, in depth one fourth or one fifth of the substanding columns, is composed of the three canonical main sections with the four aforementioned submembers for the cornice and the three facias for the architrave. The ornamental mouldings of the Cornice are the denticulus, astragalus, ovumanchoræ and mutulus (Modillion), the last in this particular form of bracket appertaining especially to this Order and the Composite. The frieze, slightly narrower than the other two sections, respectively above and below it, may be either plain or decorated, in the latter case usually by the encarpus, candelabra, human figures, heads, etc. The shaft of the column may be either fluted or smooth, the grooves in the first case varying in number from 18 to 24, but usually in harmony with the entablature, that is, if the latter be entirely or comparatively plain the shafts are smooth and if more richly decorated they are fluted.

Occasionally we have instances of the shafts being rendered more ornate by the insertions vertically of carved flowers, leaves, etc., (called sometimes "cabling") filling up the flutings to about a third of the shaft's length, corresponding in a way to the "Pans" of the Doric fluted columns, but this is a deviation and license not admitted by the pure Roman school. The Greeks frequently affected in their capitals a mixture of different foliages, while the Romans adhered rigorously to the acanthus leaf alone for theirs, and if ever they did adopt any other foliage it was on exceedingly rare occasions and even then it was always homogeneous and not mixed. The best known instance we have being the columns of the Aedicula-Vestæ at Tivoli with capitals entirely of olive leafage, and moreover it is by no means certain that this unique surviving specimen is a genuine production of Roman architecture and cannot be cited therefore as representative of it.

It is universally recognised that the Roman buildings of this Order outshone the Greek beyond all comparison. The more graceful outline and richer mouldings of the entablature, the exquisite elegant shape and homogeneous foliage of the capital, the greater dimensions and symmetrical relative proportions of the several members, of the Roman Corinthian endow the whole with a bolder, more imposing harmonious character, and have secured for it the supremacy that was and is acknowledged by the fact that the Roman Order was and is chosen in preference to all others by all peoples as the model archetype of the Corinthian.

COMPOSITE. This Order, of Roman invention, is the youngest of the Classic Orders. Unfortunately nothing absolutely certain has been gathered regarding the date of its creation or the name of its inventor, but fortunately tradition has stepped in to make amends in a measure for the failure of history.

In the times and countries where literature was not generally used and diffused, fable, legend and tradition which have all some foundation in fact, replaced to a certain extent the deficiency of documentary evidence. Of these three the first and second are largely symbolical and imaginative and the third, the most reliable of the three as a source of information, is mainly a verbal narration of

events by contemporaries and transmitted from generation to generation more or less varied but never essentially altered much, and, therefore, possessing one advantage, that of coeval testimony, over those documentary accounts and descriptions which are composed long after the period in which the events dealt with occurred. In default therefore of historical records, that are themselves frequently drawn in part from the above sources of myth, legend and tale, we have recourse to traditional report.

The celebrated Lucius, Cornelius, Rufinus Silla B.C. 138-79, a true-blue Roman and a true-blue Patrician, had two religions of which he was the uncompromising and fanatical devotee, these were his country and his caste, and as such, intollerant of any rivalry in any important direction by either plebeians or foreigners. But more than this the character of Silla was one of the most remarkable and perhaps unique compounds known in history. Dr. Mommsen styles him epigrammatically the "Don Juan of politics." He was gifted by nature with supreme genius and practical ability and will, qualities so rarely combined, so that his great conceptions were realised in practice by his surpassing facility of doing the right thing at the right moment. He was by temperament and inclination an Epicurean, a man of pleasure and society, but also a man of vast and varied culture. He was by necessity a soldier and by his versatile ability a great soldier, but he was essentially and primarily a consummate statesman for though brave to temerity, the soldier was for him only an accessory inferior vocation assumed solely to strengthen his position as the political leader of his country. The darker shades of his character were his extreme vindictiveness, haughtiness and cruelty. But if he was ruthless to his foes he was staunch to his friends, and moreover we must remember that we cannot rightly understand and appreciate the ideas, principles and actions of those times by applying to them the standards prevalent in ours. There is perhaps no more common or more false guide than this, in all similar cases, and none surer than to divest ourselves as far as possible of our own conditions in order to invest ourselves with those of whom we wish to judge fairly.

It is not surprising therefore, that after Silla had successfully accomplished his necessary business in Greece, that is, his politico-

military operations, he sojourned for a while in that land relapsing into the more congenial and intellectual character of the learned, cultured and æsthetic Patrician in which he had leasure to study and appreciate the productions of Greek art. But though Roman art could vie even then with the Greek, this rivalry admitted a sort of equality in art between the two, which his competence recognised but which his patriotism could not tolerate, and he therefore devised a plan to secure to Rome by a new triumph in this direction that incontestable supremacy which she enjoyed in other respects. Silla, on his return to the Eternal City when he assumed the Dictatorship offered it is alleged a huge pecuniary premium and a high official dignity at option to anyone who succeeded in inventing a novel architectonic Order that while differing from, would possess equal claims to beauty and symmetry to any of the existing Orders, combined with a superiority in imposing richness of aspect. Remarkably enough a man was found of inventive genius to whom the incentive factors, greed of gold and greed of power, usually so potent, did not appeal, but whom two others, entirely moral, love of country and love of art, strongly influenced and swayed, and who refusing all other reward, substantial or not, even renown, save that accruing from satisfying these two sentiments, offered, through an intermediary bound to secrecy, to create this Order on condition his name remained unknown.

The Dictator was too practical a man to reject any chance of attaining his aim, all the more as the one condition proposed was so entirely disinterested with regard to recompense, and might have been necessary for personal reasons to the candidate, and moreover inquisitive curiosity for its own sake had no place in that broad and strong mind. So making this facile concession Silla accepted the proposal as it stood and in due course a model of this Order was submitted to him and a committee of the competent professional judges and pronounced as possessing the qualifications demanded, and thus the Composite Order was duly introduced and installed as one of the Classic Orders and accepting this account its birth may in consequence be fixed approximately at B.C. 82-79.

There is also the more common but similarly vague and unestablished version that this Order was the product of an equally unknown artist about or shortly after the time assigned to the above-mentioned one, who conceived the idea of a combination of the Ionic and the Corinthian by superposing the capital of the former on a part of the vase of the latter, but in this case also this new Order was a Roman production the two types respectively chosen belonging distinctly to the purely Roman style.

As already said the chief and most typically national Order of the Greeks was their Doric, and similarly the Roman Corinthian and Composite hold the same position nationally with the Romans, the Ionic in both taking the intermediate place between the others.

Though the Composite has been handled somewhat severely by certain of those critics whose palates are pleased with nothing that does not savour of the rust of high antiquity (who are as purblind and narrow as the other extremists who think that nothing is good that is not modern) the larger volutes, less intricate and more regular and decided caste of the Composite capital and its richly decorated entablature invest this superb Order, not inferior to any in beauty and elegance, with the attributes of majesty and boldness in a peculiar and superlative degree, and if the claim of the Corinthian to the title of "Queen of Architectural Orders" be justified, that of the Composite to that of the "King" or as some authorities prefer to term it the "Ordo Triumphalis" or "Triumphal Order" is equally so.

This estimation has been confirmed not only by contemporaries but also by posterity, who have both theoretically recognised and practically adopted the Composite as one of the two Classic Orders especially adapted for edifices of importance of a sumptuous and grand style.

The Composite capital, quadrilaterally identical, consists of an abacus similar but somewhat more robust and richer than that of the Corinthian, resting on a vase composed of volutes often decorated and always of larger dimensions than those of the Corinthian, and intersected by strong ovum anchoræ and astragalus, surmounting two rows of acanthus mollis alone without the intrusion of bosses, tendrils or other decorations. The graceful outline and proportions of this

capital, one third of whose depth is assigned to the volutes, another to the upper range of leaves and another to the lower, the elimination of all ornamentation other than the uniform foliage combine to give it a character of regular, virile and rich harmony peculiarly its own.

The shafts are smooth or fluted, in the latter case the grooves numbering from 18 to 24 are divided by the vertical raised fillets each one fourth of the grove in width. The Composite base has a narrow torus in place of the two coupled listels of the Corinthian and a deeper plinth. The entablature in shape and members resembles the Corinthian, only the mouldings are generally of bolder cut and more richly adorned than those of the latter. The Composite frieze is frequently decorated with reliefs of human and animal groups representing some event or scene and it is remarkable that the only other Order that especially favors this species of decoration for the frieze is the Greek Doric on its metopes, so that it may be said that in this respect the two extremes meet, the earlier and the latest of the Classic Orders.

The relative proportions of depth of entablature, of capital, base and height of shaft are about the same in the Roman Corinthian and Composite. This Order was more frequently used in conjunction with others than exclusively for buildings, and in the first case was invariably applied for the decoration of the highest tier of the many storied edifices, as for instance, in the third story, as is affirmed, of the Domus Clodii on the Palatine, the fourth, as we see, of the Flavian Amphitheatre, the fifth in Nero's Palace and the seventh in that of Septimius, a proof of the place it held in architecture.

It appears that the Flavian Emperors favored this Order for their numerous and stupendous edifices as is testified, besides the said Amphitheatre, by the Arch of Titus in which it is affirmed this Order was first introduced exclusively as the columnar decoration. It is also stated that it was shortly afterwards similarly adopted for the Temple of Vespasian, though the extremely damaged and defaced condition of the three surviving columns of this structure do not permit of an absolutely positive affirmation to this effect.

It must be emphasized and borne in mind that the rules given regarding the proportions, dimensions, position and shape of the

several sections, members and mouldings both in respect to each unit separately and in connection to each other, and above all those laid down relatively to the decorations for which a certain latitude was allowed, are the canons generally specified and established for each Order, but that occasionally partial, minor deviations and modifications are introduced which affect certain details but do not fundamentally or essentially alter the whole style or violate the main rules of Classic architecture, and that it does not follow that owing to this license the works so treated cease to belong to the Classic but merely that they represent in architecture the position of freelances and irregulars in reference to an army, who belong to it and yet are not regular troupes and therefore hold a lower status.

The Glossary.

A.

ABACUS. (Latin). ABACO. (Italian). ABACUS. (English).—Also termed *Trapesius*. This name is applied to the uppermost member of a column serving as a covering for the capital. It differs in shape and size, according to the various orders and styles of architecture and may be either plain or ornamented. Originally the abacus constituted the entire capital, of which we find examples in the Egyptian and earliest Greek monuments, and consisted of a log of timber or a slab of stone, cumbrous and long, but subsequently the lower part was narrowed down into a third or fourth of a circle and separated into a distinct member called the *Echinus*. In the Etruscan and two Dorics, Greek and Roman, the abacus is flat, broad, rectilinear, quadrangular and plain, like a halved cube, except that in the last it is generally surmounted by a double projecting fillet. In the Greek Ionic it is also straight but narrower and shorter, divided into two sections, the upper consisting of a flat band, the lower is cut at the extremities into the sinuous profile invariably adopted by the other Orders for their entire abacus. With the Roman Ionic, the two Corinthians, Greek and Roman, and the Composite, the abacus is of a slightly concave shape, its two sections divided horizontally by a fillet, adorned in the centre, with the exception of the Greek Ionic, with an ornament, usually a flower, boss, or leaves and having its three parts called respectively the “*Corna*” or Horns, the “*Scopa*” Centre and the “*Arcus*” or Curve. With the Etruscan and Greek Doric the depth assigned to the abacus is about one half of the entire capital, in the Roman, inclusive of the upper fillets, it usually measures nearly two-thirds, while with the two Ionics it occupies one third of the capital and in the two Corinthians and Composite, one fifth. Every nationality, with the exception of the Chinese, has as a rule adopted the abacus in some form, though there are cases in which

it is altogether suppressed occasionally as also other instances, more frequent, in which it is doubled or trebled in depth. With the Egyptian, Assyro-Persian, Byzantine, Romance-Lombard architectonic styles it is occasionally so high as to resemble a second capital. The hypothetical derivations of the word are so far as we know, obscure and unsatisfactory. Some etymologists maintain that it comes from the Phœnician word "Aba" or powder, others from the Greek *Avax*, signifying Tablet, while Luca del Borgo di San Sepolcro, the first man who made known the Indian and Arabian Algebra opines that it is a contraction of "Arabicus."

AB SIS (*Lat.*). ABSIDE (*It.*). APSE (*Eng.*).—A term used to describe a vault comprising back and side walls but open in the front. The Roman Basilicas, the Flavian in particular, the prototype of our churches, were oblong and rectangular, excepting the back opposite the façade to which was given a semi-circular shape and this section, where the statue of the titular Deity, Sovereign or personage was placed, constituted in origin the "Absis." After the XI Christian century, the Apse was polygonal until again the Rebirth period restored it to its pristine condition. The Apse in modern churches and Cathedrals is generally situated facing east and some of those built in the form of a Latin or Greek cross have three Apses, one at each extremity, excepting, of course, the fourth the entrance. The Bishop's Throne was also subsequently styled Absis and then the vault and semi-circular space around it was denominated "Exedra" or "Gradus."

ACADEMIA (*Lat.*). ACCADEMIA (*It.*). ACADEMY (*Eng.*). The origin of this term is the following. According to some authorities, it arose from Academus, an Athenian who gave or bequeathed a portion of his landed estates in Athens to the city for the purpose of being converted into a public park and according to others from Bacchus Academus to whom a Temple was erected on this site, but in either case it is certain that the celebrated Plato B.C. 429-348, chose this spot for his lectures, and hence his disciples were called Academicians and this seat of learning Academia. Later, this term was and is applied in architecture to those buildings that are destined for public instruction, especially in reference to the Fine Arts.

ACANTHUS (*Lat.*). ACANTO (*It.*). ACANTHUS (*Eng.*). The name, as is known, of a family of thorny plants, indigenous to hot climates, the leaves of which have been adopted as the model for the distinctive feature of the capitals of the Corinthian and Composite Orders. The Greeks and the Romans differed in the type each respectively selected, the former favouring mostly the variety called the "Acanthus Spinosus" or Thorny Acanthus of a narrower, pointed leaf, the latter, the "Acanthus Mollis," or Soft Acanthus, a fuller, more rounded specimen with the tops invariably curled over. The Greeks sometimes used other foliage besides the Acanthus, such as the olive-leaf for their Corinthian capitals, but the Romans adhered to the Acanthus for their Corinthian and Composite. With the Egyptian, Indian, Assyrian, also with Byzantine and other Mediæval Architectonic styles we frequently see the shafts and even bases as well as the capitals adorned or disadorned with carved acanthus, vine, olive, lotus, palm and oak leaves.

ACROLITHUS (*Lat.*). ACROLITO (*It.*). ACROLITUS (*Eng.*). A word derived from the two Greek ones of *Akron* Angle or extremity and *Lithos* Stone, first used to designate the colossal statue which King Mausolus placed on the summit of the Temple of Mars at Halicarnassus. In later times the statues of wood, bronze or other materials that had only the extremities of marble were denominated "Acrolythi," and thus whenever it was deemed expedient to substitute the statue of one personality for that of another, the convenient system was adopted of changing only the head.

ACROPOLIS (*Lat.*). ACROPOLI (*It.*). ACROPOLIS (*Eng.*). A combination of *Akron*, and *Polis* City, and the architectural term for that part of the town on an elevation within the area of which were built the Temples of the protecting Deities and the residences of the principal citizens. Athens had one Acropolis, Rome it may be said had two, one on the Palatine, the other on the Capitoline Hill.

ACROTERIUM (*Lat.*). ACROTERIO (*It.*). ACROTERIUM (*Eng.*). A derivation of "*Akron*" in architecture applied to indicate the pedestal placed on the apex, angles or prominent parts of the pediment, attic, terrace of a building for the purpose of sustaining statues, vases, cones or other similar ornamental units.

AEDES (*Lat.*). **TEMPIO** (*It.*). **TEMPLE** (*Eng.*).—A temple not consecrated by the Augurs, which was the only distinction between this class of religious edifices and those styled “*Templum*.” This term was likewise adopted to describe those secular buildings of importance, as distinct from *Domus*, whose proprietors or constructors were considered sacred personages, as for instance, “*Aedes Divi Julii*” instead of *Basilica Julia*. In fact, it seems obvious that “*Aedes*” was the classic term for this category of edifices and that that of “*Basilica*” came into use much later, seeing that it is a Byzantine Greek word and therefore chronologically posterior to the times in which these fabrics were erected.

AEDICULA (*Lat.*). **EDICOLA** (*It.*). **AEDICULA** (*Eng.*). The diminutive of *Aedes*, a chapel.

AGGER (*Lat.*). **FORTE** (*It.*). **FORT** (*Eng.*). This term in architecture signifies the erections for offensive or defensive operations consisting of an elevation of earth and stones surmounted by small towers and protected by a moat. The word was also used in reference to mural constructions to describe the mound-ramparts permanently attached to the walls and forming part of them, the precursors of the wall-towers of later times. Of these *Aggeres* examples are furnished by the ruins of the ancient Servian Walls of Rome, B.C. 578—534, the first complete and regular ones of the Eternal City, because those of Romulus B.C. 753—715 were very rudimentary and limited, and those of Ancus Martius, B.C. 641—617 were partial.

AERARIUM (*Lat.*). **TESORERIA** (*It.*). **TREASURY** (*Eng.*). A derivation of “*Aerarii*” which was the designation given to those who paid the taxes and tithes, and in architecture used to describe the building wherein the public funds were kept.

ALAE (*Lat.*). **ALI** (*It.*). **AISLES** (*Eng.*).—The Latin word for wings and in architecture denoting the side rooms of the *Domus* flanking the principal chamber on either side, and in the present time, the lateral sections of churches bordering the central part or nave.

ALTARE (*Lat.*). **ALTARE** (*It.*). **ALTAR** (*Eng.*).—The same as “*Ara*,” so far as regards its purpose but differing in position, because the first was placed on an elevation and the second on the pavement or ground.

AMBRICES (*Lat.*). TEGOLA (*It.*). TILE (*Eng.*).—Also termed “Imbrex.” As is known, the unit adopted for the roofing of buildings. In the classic epoch instead of consisting as in our times of earthenware, slate or stone, the Ambrices, convex, flat, square, oblong, &c., were frequently of bronze, brass, or marble, either plain or chiselled, gilded or ungilded or gold-plated.

AMBULATORIUM (*Lat.*). AMBULATORIO (*It.*). AMBULATORY (*Eng.*).—A derivation of the Latin verb “Ambulo,” to walk, and in architecture adopted to denote the lateral porticoes of Villas, Basilicas Theatres, &c., destined for walking or strolling. In modern times the word is sometimes applied to indicate the cloisters of convents or churches.

AMPHIPROSTYLUS (*Lat.*). AMFIPROSTILO (*It.*). AMPHIPROSTYLUS (*Eng.*).—An architectonic term composed of the three Greek words *Amphi*—both, *Pros*—before and *Stylos*—column, to designate the third Order of religious or other edifices having two identical façades with columns.

AMPHITHEATRUM (*Lat.*). AMFITEATRO (*It.*). AMPHITHEATRE. (*Eng.*).—A composite word from “*Amphi*”—both, and *Theatrum*—Theatre. Originally this term was applied to describe that class of oval edifices for spectacular purposes so constructed that the halves, revolving on a gigantic pivot, turned outwards and then remaining stationary back to back formed two independent semi-circular theatres, and then again turning inwards by the same process inversely re-united to constitute one. Subsequently this designation was applied to the edifices wherein a variety of exhibitions were given. They were of oval shape and uncovered, except temporarily if necessary by the “*Velarium*,” or awning. The central section was called the “*Arena*” owing to the sand strewed thereon to dry the surface after the combats between gladiators, condemned persons and wild beasts. The *Arena* was encircled by several tiers of seats differing in material, decorations, style and position, in conformity with the various ranks of the audience. These seats collectively called “*Gradatio*,” were divided vertically by the “*Cunei*,” or Wedges, so called on account of their shape, and horizontally by the “*Præcentores*,” or Partitions, and were reached by the

“*Scalariæ*,” or Stairs, and their exits were termed “*Vomitoriaë*,” or Vomitories, because these egresses vomited forth the spectators. The dimensions of these buildings were generally great and their architecture solid and superb. Out of the scores of Amphitheatres constructed by the Romans in most of the more considerable towns, in Italy and Sicily, and in a lesser degree in France, Spain, Asia and Northern Africa, among the most remarkable of which that survive in a way in ruins are those of Pompeii, of Syracuse, of Verona, of Pola, of Arles, of Nimes, &c., and indisputably the most famous and imposing naturally that of the Metropolis, the Flavian Amphitheatre of Rome.

AMPHORA (*Lat.*). AMFORA. (*It.*). AMPHORA. (*Eng.*). A vase, originally serving as a measure, either of earthenware, marble or metal. The Etruscans as well as the Greeks and Romans were especially renowned for the graceful form and the excellence of design and work of their Amphoræ.

AMPULLA. (*Lat.*). AMPOLLA OR FIASCO. (*It.*). FLASK. (*Eng.*).—A bottle usually of glass, sometimes of earthenware, stone or metal, full and round in shape, wherefore the word “*Ampullæ*” was used in Latin figuratively to signify swollen, bombastic phrases, as “*Ampoloso*” is now in Italian.

ANAGLYPHA. (*Lat.*). ANAGLIFA. (*It.*). ANAGLYPHA. (*Eng.*). A term composed of the two Greek words *Ana*—upon, and *Glyfo*—to carve, which is Pliny’s generic designation for reliefs, as “*Toreuma*” is Cicero’s. See “*Extypæ*,” page 292.

ANDRON (*Lat.*). ANDRONE. (*It.*). ANDRON. (*Eng.*).—A derivation of the Greek *Anir*.—Man, and signifying in architecture the men’s apartment of a house. The term is also applied to indicate any narrow space between two parallel walls, such as a corridor, an alley, &c.

ANTEFIXUS. (*Lat.*). ANTEFISSA. (*It.*). ANTEFIX. (*Eng.*).—The technical term in architecture, composed of the two Latin words “*Ante*”—before, and “*Fixus*”—fixed, to describe the ornamental units of various shapes and generally of terra cotta, either super-imposed or attached to certain sections of a building. Placed on a roofing the Antefixus served to cover the joints and

extremities of the bricks and tiles or immediately beneath it similarly for the gutter mouldings. Surmounting the entablature it usually consisted of balls on apexes and was of the same material as the rest of the structure, and when affixed to any flat surface it was given the form of a tablet with reliefs of figures or designs, and attached to the interior or exterior of edifices to conceal decoratively the interstices of the walls or as an ornate appendage to the cornice.

ANTRUM. (*Lat.*). ANTRO. (*It.*). CAVERN OR GROTTA. (*Eng.*).—As is known, a natural or artificial cavity, mostly the former, in the body of a mount or hill.

ANTEPEGMATUM. (*Lat.*). TELAJO. (*It.*). FRAME. (*Eng.*).—The entire case or frame-work of a window, or door.

ANTERIDE. (*Lat.*). CONTRAFFORTE. (*It.*). BASTION (*Eng.*).—The mass of stone or brickwork annexed as an external support to walls for the purpose of sustaining and fortifying them.

ANTIS. (*Lat.*). ANTE. (*It.*). ANTIS (*Eng.*).—The architectural term derived from “Ante”—before, to designate the first and simplest Order of edifices with a Portico at the façade consisting of two columns in front and two pilasters behind all parallel to each other.

ANULUS (*Lat.*). ANELLO. (*It.*). ANNULET. (*Eng.*).—The Latin for ring, and in architecture used to denote the two circlets, a larger coupled with a smaller beneath it, which in the Etruscan and Roman Doric are placed at the bottom of the “Collus” or neck of the column, and in the other Orders, except the Greek Doric which has none, immediately under the capital.

APOPHYGE. (*Lat.*). APOFIGE. (*It.*) APOPHYGE. (*Eng.*). A word composed of “*Apo*,” from, and “*Fefgo*,” to escape, or withdraw; to denote the double circlet over the base from which the column rises corresponding to the “Anulus” at the top.

AQUEDUCTUS. (*Lat.*). ACQUIDOTTO. (*It.*). AQUEDUCT. (*Eng.*). A compound term formed of the Latin words “Aqua”—water, and “Ductus”—Duct or Channel, to describe the covered canal, superterranean or subterranean, for the conveyance of water from its source to the city where it was preserved in the “Castellum” or Reservoir, or issued directly from the city fountains or was diverted by branch pipes to private and public buildings of importance.

It is universally admitted that the Romans excelled all other peoples of all times in their hydraulic constructions of this nature, and these unrivalled colonizers of antiquity did not confine these great works to the Eternal City or Italy alone but planted them all over their vast possessions. The distances covered and other difficulties, the inimitable construction and secular duration of these Aqueducts, created by man-power unaided by steam or electricity, render them not the least marvellous examples of Roman might and ability. With the exception of the Appian Aqueduct, the earliest, which was entirely subterranean, the others were built in the proportion of approximately one fourth above ground and three fourths under ground. The superterranean section was a series of strong arches and piers sometimes 105 feet high, sustaining one, two or three channels superposed on each other carrying water from different sources and from distances varying from 12 to 60 miles. The system of utilising occasionally one main Aqueduct for more than one independent channel accounts for the different estimations given regarding the number of these water-conduits of the Seven-Hilled City, because some authorities reckoned each channel as a separate unit while others calculated the main Aqueduct as one whether carrying one or more than one separate conduits. For instance, Frontinus gives the number as nine, others at fourteen and others again, like Victor at twenty even when treating of a contemporaneous or almost contemporaneous period. The material employed was travertine, peperino and selce, though some of the more ornate main arches and decorative parts were of marble. From the architectural, structural and engineering standpoints the two Aqueducts of the Emperor Claudius A.D. 41-54, covering respectively about 47 and 56 miles, were incontestibly the best of the Roman and consequently of all the Aqueducts then built. A highly organised body of men under the "Curator Aquarius" kept these Aqueducts in perfect conditions of repair and sanitation.

ARA. (*Lat.*). ALTARE. (*It.*). ALTAR. (*Eng.*).—An erection generally low and quadrangular or circular in shape, usually of stone or marble with cornice and base and mostly decorated with

reliefs for the worship of the Gods either within or without an edifice. This word was also used as synonymous of *Asylum*.

ARABICUS OPUS. (*Lat.*). ARABESCO. (*It.*). ARABESQUE. (*Eng.*)
—This designation is applied to describe a decorative work consisting of carved or painted reproductions of plants, fruit, flowers of fanciful designs or human and animal figures, the invention of which has been ascribed to the Arabs though some authorities opine that the Arabesque is a modification of the Egyptian Hieroglyphics, which it might possibly be, but not an imitation seeing that the Mahommedanism of the Arabs prohibited the reproduction of human and animal figures as savouring of idol worship while the Hieroglyphics abound in both the latter. The word Arabesque has come to be the technical term commonly used to designate even those works of a kindred nature executed long prior to the existence of Arabian architecture, such as, for instance, the designs discovered on the walls of the unearthed buildings of Pompeii and Herculaneum, a species of ornamental work anciently termed “*Cælamen*” or “*Pictus*” to which the retrospective misnomer of *Arabicus Opus* could not evidently have been applicable. Perhaps the most celebrated specimens of painted Arabesques of modern times are those of the Vatican Palace known as the “*Loggie di Raffæle*” in which this great artist introduced allegorical figures an innocent innovation on the preceding Mahommedan Arabesques, though not of the Pagan works of this character.

ARCHIFORNIX (*Lat.*). ARCHIVOLTO. (*It.*). ATTIC. (*Eng.*).
A bilingual combination of the Greek *Arhe*.—Head, over, and the Latin “*Fornix*” vault or arch, to denote the highest section of the memorial or triumphal isolated arches placed immediately above the vaulting, provided with cornice and base, corresponding to the frieze of the entablature, on which the epigraph is inscribed. This member is massive and broad and comprises the whole breadth and depth of the structure which it crowns and is itself surmounted in the more important arches with symbolical, allegorical or representative figures, statues, bigas, quadrigas, sejuges, &c.

ARCHIUM. (*Lat.*). ARCHIVIO. (*It.*). ARCHIVE. (*Eng.*).—A derivation of *Arhaios*.—Ancient, to indicate in architecture the

building serving for the preservation of public and private documents.

ARCUS. (*Lat.*). ARCO. (*It.*). ARCH. (*Eng.*).—This term, from “Arcus”—bow, in architecture is applied to a construction of a curved line placed above and resting on two vertical, parallel, lateral supports, whether columns, piers or walls. When the interior space of this curved line was not open, but closed up it was called “Arcus Orbus” or Blind Arch. In the prehistoric times the idea of a species of vaulted opening apparently existed as is testified by some of the ruins of that epoch, but this could not in any sense be considered the architectural Arch, the invention of which may be attributed to the Etruscans and its technical and artistic perfection to the Romans. This member has been given an infinite variety of shape but to reduce it to its simplest classification it may be divided broadly into four principal styles of which the others are modifications. First, the Roman, that describes a circle cut in half horizontally; second, the French, that is, the semi-oval which takes the form of half an oval figure; third, the Saracenic, or Moorish of the horse-shoe conformation, narrower at the bottom, and fourth, the Gothic, or acute arch, of a conical, pointed shape. The Roman arch was used in a continued series for bridges, porticoes, halls, &c., in classic times, as it is now. To the Romans, also belongs the credit of having adopted this member as an isolated erection and their triumphal and memorial Arches were monuments of great importance and magnificence. There were four kinds of these solitary arches. The one-vaulted, like that of Titus, the three-vaulted, like that of Septimius, the Arcus Compitalis, that is the four-fronted arch with two parallel vaults running crosswise, like that of Janus, and the quadrangular Arch resembling what is called a Pylon, except that it is not trapezoidal like the latter, of which the Arcus Argentarius offers an example. Fortunately, all the above cited specimens exist, though in ruins, in Rome. It is evident that the Greeks neither invented nor adopted by imitation the isolated Monumental Arch and therefore there are no records or traces of them there. Nevertheless it must be remembered that the “Arch.” and the “Column” are the two principal members of Architecture.

ARENA. (*Lat.*). ARENA. (*It.*). ARENA. (*Eng.*).—The Latin noun for sand and the architectural term for the space in the centre of the Amphitheatres, Circuses and Stadiums surrounded by a parapet and railing reserved for the combats, races, or other exhibitions, because whatever the pavement or flooring, it was uniformly covered with sand to keep it dry, clean and unslippery. Later the term was also applied in a broader sense, that is, to the entire edifice, as for instance, the “Arena of Verona,” &c.

ARENATUM. (*Lat.*). INTONACO. (*It.*). PLASTER. (*Eng.*).—The mixture of sand, lime and water which is applied to cover the core of stone, bricks or other substances of the ceilings and walls.

ARX. (*Lat.*). CITTADELLA. (*It.*). CITADEL. (*Eng.*).—A term applied generally to a stronghold or fortress in proximity to a town. The “Arx Capitolinus” which was the fortified portion of the Capitol contained, it is reported, 60 Temples, Chapels and Shrines.

ASAROTUM (*Lat.*). PAVIMENTO SCACCATO. (*It.*). CHEQUERED PAVEMENT. (*Eng.*).—As its name denotes, a pavement composed of alternate squares of different colours resembling a chess-board.

ASSERES. (*Lat.*). TRAVICELLI. (*It.*). RAFTERS. (*Eng.*).—Also “Interpensiva.” The smaller beams of the roofing of which the extremities in primitive times projecting outwards over the walls were cut in a row and thus first gave the idea that ripened after into the architectonic “Denticulus” or Dentel. “Assis” is one of the Latin words for beam, of which “Asser” is the diminutive.

ASTRAGALUS. (*Lat.*). ASTRAGALO (*It.*). ASTRAGAL (*Eng.*).—From the Greek work *Astragalos*.—ankle, and the technical term in architecture of the ornamental moulding whose chief feature is a series of carvings supposed to resemble the ankle bone and commonly known in England as the bead-ornament. This moulding was used indiscriminately to divide, as the intersecting horizontal fillets, the members of the Cornice, the Facias of the architrave and placed between the volutes of the Ionic and Composite capitals. It is an ornament now much in use for a number of purposes, such as, for instance, the cornices of ceilings, picture and mirror-frames, chimney pieces, &c.

ASYLUM. (*Lat.*). ASILO. (*It.*). ASYLUM. (*Eng.*).—The place where all, outlaws or not, were theoretically free from all persecution, legal or illegal. Romulus established an Asylum for fugitive slaves and outlaws at the foot of the Capitoline Hill near the “Ara Saturni” in order to increase thus the population of his infant State. So long as the inhabitants were very few the further premium held out to these rescued and liberated persons was their admission to Roman citizenship but of course, enrolled in the plebeian Order, and safety, freedom and dignity thus conferred upon these men often had the happy result of regenerating them and making them useful and excellent members of the Kingdom.

ATLANTES. (*Lat.*). ATLANTI. (*It.*). ATLANTS. (*Eng.*).—(See “ORDERS OF CLASSIC ARCHITECTURE.” (Page 248).

ATRIUM. (*Lat.*). ATRIO. (*It.*). ATRIUM. (*Eng.*).—The ante-room, saloon or court of the Domus, where the master received. It might be either roofed or unroofed, was surrounded generally by a colonnade and contained besides the Altar to Jupiter also the effigies of the family ancestors (Penates) and the household Deities (Lares), the Romans like all great races holding the ancestral cult in very high estimation. Besides the Patrician Mansions, the Temples and the Basilicas were provided with Atriums. Vitruvius in his standard work on classic architecture distinguishes four classes of Atriums differing in the number and disposition of their columns and their complete, partial or no roofing.

B.

BACILLUS (*Lat.*). TONDINO (*It.*). LISTEL (*Eng.*). Literally the Latin for rod, and in architecture used to indicate the circles, one for the Etruscan and three joined together for the Roman Doric, which bind the capitals at the bottom.

BALAUSTIUM (*Lat.*). BALAUSTRÀ (*It.*). BALUSTRADE (*Eng.*). The designation applied to a row of small columns or pillarets with a cornice and base consisting of stone, wood or metal adopted to border staircases, balconies, terraces, attics or open partitions to mark, limit and protect them.

BALNEAE (*Lat.*). BAGNI (*It.*). BATHS (*Eng.*). The word "Thermæ" from the Greek *Thermos*, hot, is also and more frequently used to designate Bathing Establishments, though considering that the ancient Roman Balneæ were far from being limited to hot baths alone but included cold, tepid, vapour, shower and swimming baths besides Stadiums, Lecture and Music Halls etc., the epithet of "Thermæ" however much consecrated by use or rather misuse does not seem the appropriate one to describe them, particularly as there is another more comprehensive and genuinely Latin word available. Among the many eminent writers who so highly eulogized the Roman Baths, Ammianus Marcellinus wishing to convey a sense of their dimensions likens them to provinces, and if so, they might be qualified as "Model architectural Provinces" the exaggeration which was not of course meant literally, lying in the noun not in the qualificatives. The main sections in which they were divided were the "Frigidarium" or Cold-water Hall, the "Tepidarium" or Tepid-water Hall, the "Caldarium or Hot-water Hall with their adjuncts the "Sudatorium" or Sweating-Hall, the "Apotheterium" or Disrobing Saloon, the "Unctuarium" or Anointing-Chamber and a number of non-bathing compartments for study, exercise, diversion, etc. The main Bath-Halls were symmetrically surrounded by the separate rooms sufficient, it is stated, to accomodate in the Antonine Baths eighteen hundred bathers contemporaneously and in other Baths many more, not counting the numbers of those dispersed in the sections and apartments intended for other pursuits, sports and occupations. These wonderful Baths combined the qualities and purposes of a Club, an Academy, a Hydraulic Establishment, a Gymnasium, and a Theatre. Some of the greatest authors composed their works there, the statesmen and generals often matured their policy and strategy, the athletes and actors perfected their education. The magnitude, the structural, architectural and sculptural excellence, the magnificence of the materials employed such as jasper, porphyry, malakite, alabaster for the walls and colonnades, the marble and brass ceilings sustained by the bronze Telamones, the water and vapour pipes with their projecting mouths of solid chiselled silver, the exquisite statuary,

the paintings framed in gold, the mosaic pavements, the ample and varied conveniences and luxurious appliances to suit all requirements and tastes and the perfect service all united to constitute a whole almost inconceivable to our modest, commonplace modern ideas and habits ; and to all this must be added the grand attribute of moral superiority possessed by these superb and highly hygienic Establishments arising from their being open and accessible to all indiscriminately and not as in our so-called democratic times when our insufficient and in every respect inferior public Baths are inexorably closed to the impecunious.

BASILICA (*Lat.*). BASILICA (*It.*). BASILICA (*Eng.*). A derivation of the Byzantine word *Vasilefs*.—King, whence *Vasilike*—Basilica, Royal Abode. The classic Greek corresponding words were *Anax*.—King and *Anaktora*.—Royal Palace, and the Roman synonymous terms were respectively “Rex” and “Regia.” The word Basilica was applied in later times instead of Aedes to denote the public edifices in Rome that served as the Law-Courts, the Tribunals and the Exchange. Every Forum had at least one Basilica for the transaction of business and the Forum Magnum or Romanum possessed three, namely, the “Portia,” the “Aemilia” and the “Julia” and after the first-named had been destroyed it was substituted by the Basilica Maxentia in another part of the Forum. The Monarchs of the Flavian Dynasty constructed a Basilica on the Palatine adjoining their Palace which was taken in after years as the model for that category of Christian religious buildings termed Basilicas. The other recorded but now vanished Basilicas of the Eternal City were the “Ulpia” of Trajan’s Forum, the “Oppimia” and that of Caius and Lucius. It is almost superfluous to add that these edifices were built on the customary elegant and magnificent scale.

BASIS (*Lat.*). BASE (*It.*). BASE (*Eng.*). The generic, collective appellation in architecture for the one or more members constituting the lowest section of an erection, but taking different forms and names according to the nature of the erection for which it serves as a foundation. With reference to columns, pillars, pilasters, piers and pedestals the special term for the Base is “Styra” or “Stereobates,” in connection with the entire colonnade as one continue—

plinth it is denominated "Stylobatum" and when serving for the walls of a building it is styled "Podium." The "Stereobates" may be either plain or decorated, in classic architecture nearly always the former, and is divided in conformity with the several Orders into one, two, three, four or five submembers, namely, the 1st and 2nd *Tori*, the 1st and 2nd *Scotiæ*, and the *Plinthus*. In the Greek Doric Order the *Stereobates* was as a rule omitted, in the Etruscan it consisted of one *Torus* surmounting the plinth, in the Roman Doric of two *Tori* one placed on the other the lower being larger and deeper than the upper, in the Ionics the two *Tori* are separated by one *Scotia* bordered with fillets, in the Corinthians and Composite of two *Tori*, or of one, and coupled listels instead, the lower being invariably larger than the upper, divided respectively by two *Scotiæ* with fillets and in all cases resting on the indispensable *Plinth*, all these submembers of the Base being not only more or fewer in number but also always slenderer or stouter in harmony with the Order of columns they sustain. The "Stylobatum" was as aforesaid one continued immense plinth on which the colonnade was erected, a base frequently adopted in classic edifices particularly Temples in which the steps were cut leading to the entrance. The "Podium" presented externally an appearance resembling in a way the wainscoting internally only it did not consist of a surface alone but was a substantial foundation.

C.

CADUCEUS (*Lat.*). CADUCEO (*It.*). CADUCEUS (*Eng.*). The rod with the intertwining serpents that Mercury is represented holding by which he exercised the power attributed to him of preventing strife and of calming discord. Its mythical origin is that Mercury observing two serpents fighting threw on them this then plain rod whereupon they became instantaneously reconciled and twining amicably together attached themselves to his rod, which thus supplemented became the symbol of peace. The official rod born by peace Ambassadors was called also the Caduceus and it at first consisted of a branch of olive tied with two woollen strands representing the serpents, The mythological symbols and allegories of anti-

quity were appropriated by posterity to grace their occupations and conditions with the enchanting classic touch. Merchants therefore remembering that Mercury was the God of Commerce, but forgetting that he was also the God of Theft, an ominous alliance, somewhat compromisingly adopted him and the Caduceus as emblematical of their line of business. It is also termed "Vimen" a flexible twig.

CAELAMEN (*Lat.*). INTAGLIO (*It.*). ENGRAVING (*Eng.*). The generic term for producing by incision any design on a flat surface.

CALDARIUM (*Lat.*). CALDARIO (*It.*). CALDARIUM (*Eng.*). In architecture denoting that main section of the Roman Bathing Establishments destined for hot water ablutions.

CALLIDUCTUS (*Lat.*). CALLIDOTTO (*It.*). CALIDUCT (*Eng.*). The conduits or tubes, generally of metal, inserted in or on walls to convey the hot air produced by the "Hypocaustus" or Under-Furnace to the various apartments of a building, otherwise the precursor of our present internal heating system.

CANALIS (*Lat.*). CANALE (*It.*). CANAL (*Eng.*). The generic technical appellation for all water conduits.

CAPITELLIUM (*Lat.*). CAPITELLO (*It.*). CAPITAL (*Eng.*). From the Latin word "Capus" head and the architectonic term for the head of a column, pillar or pilaster. It differs essentially in size, shape, features and decorations according to the various Orders and in fact chiefly marks the distinction between each of them. The length assigned to the capital is in the proportion of one sixth, one eighth or one tenth of its column and it may either be the same all round or have two or four identical faces. With the Etruscan and Doric Orders it consists of a rectangular flat abacus on an echinus formed in a third or fourth of a circle, with the Ionics of a smaller abacus over volutes, with the Corinthians and Composite of an abacus on a vas of volutes and acanthus foliage terminated at the bottom by the anulus. The abacus is always, with the exception as above of the Etruscan and Dorics, cut at the extremities in a sinuous profile and divided by a horizontal fillet, and except again for the Greek Ionic, describes a slightly concave curve. See "Orders of Classic Architecture." In the other ancient and in the mediæval styles the variety of capitals is infinite.

CARDO (*Lat.*). CARDINE (*It.*). PIVOT OR HINGE (*Eng.*). From which the word "Cardinalis" is derived, denoting in architecture all that appertains to the "Cardo," the joint or pin by which other sections revolve. In the Roman Catholic Hierarchy the term is applied to the highest dignitary of the Church after the Supreme Pontiff, otherwise the "Pivots" on which the Church turns and moves.

CARRUGA (*Lat.*). CARRIOLA OR CARRO (*It.*). CAR OR CART (*Eng.*). The Latin term to describe a vehicle, generally one-horsed for ordinary purposes.

CARYATIDES (*Lat.*). CARIATIDE (*It.*). CARYATIDES (*Eng.*). The technical term in architecture of statues representing females adopted in the place of columns corresponding to the "Atlantes," "Telamones" and "Persans" of the male sex. See "Orders of Classic Architecture," page 244.

CASTRA (*Lat.*). CAMPO (*It.*). CAMP (*Eng.*). In architecture signifying an entrenched camp or a barracks. There are vestiges still in Rome of the "Amphitheatrum Castrensis" an amphitheatre destined for the use of the "Castra Prætoriae" or Barracks of the Imperial Guard. The word "Castrum" is the Latin for Castle.

CATASTA (*Lat.*). MERCATO DI SCHIAVI (*It.*). SLAVE-MARKET (*Eng.*). As its name denotes the construction assigned for the sale and purchase of slaves whence "Catastus" a slave for sale.

CAVAEDIUM (*Lat.*). CAVEDIO (*It.*). CAVAEDIUM (*Eng.*). Signifying in architecture an open space, a court-yard, a court, comprised within the precincts of a Domus.

CAVATIO (*Lat.*). CAVETTO (*It.*). CAVETTO (*Eng.*). The technical term for the lowest submember of the Cornice, a moulding, generally concave, rectangular or sinuous of profile, ornamented or plain.

CAVEA (*Lat.*). CAVEA (*It.*). CAVEA (*Eng.*). Literally the Latin for a subterranean cave but adopted in architectural language to describe the pit of a Theatre or Amphitheatre, and, later more specifically, to indicate the area and series of seats reserved for the Equestrian or Second Order of the Roman State.

CELLA (*Lat.*). CELLA (*It.*). CELLA (*Eng.*). A term when applied to ancient Temples signifying the enclosed space between

the walls. These sacred edifices had sometimes two or three *Cellæ* one for each Deity.

CENOTAPHIUM (*Lat.*). *CENOTAFIO* (*It.*). *CENOTAPH* (*Eng.*). More correctly "Kenotaph." An architectonic term composed of the two Greek words *Kenos*. empty, and *Tafos*, grave, to designate a tenantless sepulchral monument erected usually as a memorial in honor of the deceased and not for the purpose of interment.

CHELADICUM (*Lat.*), *SALA* (*It.*). *SALOON* (*Eng.*). The technical name for a lofty, ornate and spacious Hall.

CHELONIA (*Lat.*). *SOSTEGNI* (*It.*). *SUPPORTS* (*Eng.*). A derivation of "Chelon" tortoise, in architecture signifying low, massive supports or feet.

CHORION (*Lat.*). *CORIO* (*It.*). *CHORION* (*Eng.*). The architectural term for that style of mural construction composed of slabs or blocks of precisely equal dimensions and shape. The word is said to be derived from *Horos*, signifying place or space.

CIPPUS (*Lat.*). *CEPPO* (*It.*). *CIPPUS* (*Eng.*). Etymologically the Latin for trunk and architecturally adopted to designate the quadrangular or circular isolated low pier, provided with cornice, cube, base and inscription and generally ornamented, used by the Romans as a votive or sepulchral monument. This unit is also called "Stela."

CIRCINUS (*Lat.*). *COMPASSO* (*It.*). *COMPASS* (*Eng.*). The noted geometrical instrument for taking measures, describing circles, etc.

CIRCUMFERENTIA (*Lat.*). *CIRCOMFERENZA* (*It.*). *CIRCUMFERENCE* (*Eng.*). From "Circus" circle and "Facere" to make, that is, to make or complete a circle and the term applied to designate the line drawn all round any figure to measure its size externally.

CIRCUS (*Lat.*). *CIRCO* (*It.*). *CIRCUS* (*Eng.*). The Latin for circle and in architecture the term employed to denote a circular or oval edifice destined at first for athletic sports only, such as wrestling and racing, but subsequently used also for gladiatorial, wild beast and naval combats, and during the persecution of the Christians as the place for the execution of their death sentence by being devoured by wild animals. These buildings, originally intended for the worthy purpose of invigorating the race, were authorised and consecrated by religion as well as by civilian legislation (which pro-

hibited tragic, dramatic and comic theatrical performances as puerile and pernicious) and when the pristine Roman virtue had declined those in power continued to sanction and consecrate those buildings and the exhibitions therein although the latter had in a great measure changed in character and deteriorated into frequently savage spectacles. The form of the Circus despite its application did not describe a perfect circle but rather an elliptical sphere. Its entrance was quadrangular and its opposite extremity, called "Carceres" or stables for the horses and chariots was semicircular. In the centre of the "Gradatio" or enlarging rows of seats for the audience, was the Arena bisected lengthwise by the "Spina," and bordered all round by the "Euripus" or canal. The "Pulvinar Imperialis or Imperial Box was generally situated to the right of the "Aeditus" or Entrance and midway between the two extremities of the Gradatio. This class of structures for spectacular purposes were the earliest known in Rome and in the course of time as luxury and refinement developed the quality of the materials and the style of the Circuses assumed an incomparably higher scale of artistic value and splendour. The most ancient of these Roman edifices, the Circus Maximus, the nucleus of which was laid by Romulus, frequently rebuilt, restored and extended each time with greater magnificence, was situated in the hollow between the Palatine and Aventine Hills and here the rape of the Sabine women by the Roman men took place. This greatest and parent of Circuses could contain in Trajan's reign, A.D. 98-118, it is reported about 300,000 spectators.

CISTERNA (*Lat.*). CISTERNA (*It.*). CISTERN (*Eng.*). As is known a receptacle for collecting, purifying and preserving rain-water. The ancients, especially the Romans who proved in every direction their versatile and practical ability, constructed them sometimes on a truly monumental scale. There were vast cisterns in Egypt, Palestine and elsewhere but from the standpoints of engineering and structural perfection and artistic design and execution the Roman Cisterns undoubtedly excelled, and besides this their entrance and surroundings were often embellished with colonnaded porticoes, alcoves and niches with statues. The stone walls of these constructions were coated internally with "Pozzolana" or Roman cement, the

bottom being perforated with innumerable tiny holes like a sieve through which the water percolated into another larger basin beneath also built of stone blocks cased with asphalt and over this the enamelled pozzolana was laid with the bottom strewn with selected and finely sifted sand and clay. The Cisterns of Trajan's Baths, now known as the "Sette Sale" in Rome, and the "Piscina Mirabilis" at Pozzuoli are among the wrecked relics of these hydraulic works now surviving.

CLIMACIS (*Lat.*). SCALETTA (*It.*). LADDER (*Eng.*). A small moveable staircase. The Latin "Cochlea" or the Italian "Chiocciola" from "Cochlis" shell, signifies a spiral stairs or ladder.

CLIPSYDRA (*Lat.*). ORIUOLO IDRAULICO (*It.*). WATER-CLOCK (*Eng.*). The name for the clocks worked by hydraulic power.

CLOACA (*Lat.*). FOGNA (*It.*). DRAIN (*Eng.*). The architectural term derived from the Latin verb "Cloaco" to befoul, to describe the subterranean canal built for the twofold purpose of drainage and purification. The unrivalled Roman "Cloaca Maxima" was 12 feet high and paved throughout with travertine blocks except the mouth of peperino, all fixed together so accurately as not to require cement, and it lasted accomplishing its functions effectively for about twenty centuries, and the "Cloaca Circus" is said to have been even superior in finish. The Cloaca Maxima was the work of the Tarquin Kings of Rome and one of the few existing constructions of Etruscan architecture.

CLYPEUS (*Lat.*). TARGA (*It.*). DISK (*Eng.*). Signifying a round target, disk or shield and in architecture used to indicate the circular aperture furnished with a moveable lid placed generally in the centre of the vault or ceiling of buildings for the purpose of diffusing light and air. The one in the cupola of the Panthæum of Rome built A.D. 27, is a good specimen

COENATIO (*Lat.*). TINELLO (*It.*). SUPPER-ROOM (*Eng.*). This chamber of the Roman Domus is supposed to have been a smaller, more private room for meals than the "Triclinium" or Dining-Room

COENOBIMUM (*Lat.*). CENOBIO (*It.*). CONVENT (*Eng.*). A combination of the Greek words *Kinos*, common, and *Vios*, life, in architecture applied to the class of buildings that were destined for a monastic corporation.

COLLUS (*Lat.*). **COLLO** (*It.*). **NECK** (*Eng.*). The architectural term for that part of the shaft which lies in the Etruscan and Doric Orders between the capital and the annulet. This portion of the shaft is also called "Hypotrahellion" or "Hypotrahellus" from *Trahelus*, neck.

COLUMBARIUM (*Lat.*) **COLOMBARIO** (*It.*). **COLOMBARIUM** (*Eng.*). A derivation of "Columba," pigeon, and adopted to denote among the Romans that class of sepulchral structures provided internally with the "Loculi," niches, thought to resemble pigeon-holes wherein were deposited the "Ollae Cinerariæ" in several tiers in the walls around a central space, and furnished with two staircases one internal the other external, by which ingress and egress were affected. The "Columbariæ" were accurately and strongly built but not remarkable for any special artistic merits, except possibly for the busts of the deceased, the Cinerary Urns and the Tablets with their epigraphs, all of which do not appertain to the architectural work. The Columbariæ were erected either by the great patrician families for deceased dependents, or by several families of the third Order, the burgesses, in association for the interment of their members, or by burial societies as a speculation. There are several remains of them in the environs of Rome among which may be cited the Columbarium Secondini and that of the Liberti or Freedmen of Livia.

COLUMNA (*Lat.*). **COLONNA** (*It.*). **COLUMN** (*Eng.*). This term is derived from the Latin "Columen," support, to designate the perpendicular, cylindrical sustaining or isolated ornamental member comprising capital, shaft and base and which with the arch are the two principal architectonic units. Its height and diameter are infinitely varied and as a rule it diminishes in circumference and increases in altitude in proportion as the Orders are more ornate. As the shaft ascends from its base by the apophyge to its summit at the anulus it gradually becomes more restricted in diameter, except in the cases where the "Enstasis," distension, is introduced causing a swelling to intervene between the imoscapus and summuscapus, in other words between the highest and lowest extremities of the shaft, with a not very graceful result unless it be so slight as to be almost imperceptible. The several Classic Orders were thus respectively determined and defined by the features and form of the

capital, the dimensions and flutings of the shaft, the number and size of the submembers of the base and the configuration and mouldings of the entablature. The terms of "Columna Striata" signifies "Fluted Column," of "Columna Cochlis" the column whose shaft is bound round by a spiral band from top to bottom like the Trajan and Aurelian Columns in Rome, the "Columna Structilis" Pilaster, and "Columnarum Series," a colonnade. In the other ancient and in the mediæval styles, notably the Rebirth aiming above all at novelty and showy effect, we find a great variety of form and ornamentation of the columns productive of results that partook rather of the curious and startling than of the elegant and artistically beautiful, with the consequence moreover that they cannot be regulated by established canons.

COMPITUS (*Lat.*). COMPITO (*It.*). COMPITUS (*Eng.*). The central point of meeting of two roads or streets to which they converge from a contrary direction forming a cross. There was often a four-vaulted, four-fronted massive arch erected on this point which was termed "Compitus" or "Arcus Compitalis." The famous "Arcus Janus Quadrifrontis" the only one now surviving as a ruin of the many Janus Arches of the Eternal City, is a Compitus in classic architectural language.

COMPOSITUS ORDO (*Lat.*). ORDINE COMPOSITO (*It.*). COMPOSITE ORDER (*Eng.*). See "Orders of Classic Architecture," page 254.

CONSTRATUM (*Lat.*). PAVIMENTO (*It.*). PAVEMENT (*Eng.*). Also "Pavimentum" the term derived from a combination of the Latin "Con," with, and "Stratum" strata, applied to any ground surface either of a house, a street, a yard, a square covered with a layer of cement, of stone or of other material. To designate specifically the pavement consisting of slabs of stone the word "Lythostrotum" or Stone-laid, was used. The house pavements when composed of pieces of stone placed together in patterns were severally distinguished according to the works by the names of "Opus Sectilis," Opus Signinum" etc.

CONTABULATIO (*Lat.*). TAVOLATO (*It.*). BOARDING (*Eng.*). An assemblage of boards joined together to form a floor, roof, partition or any other construction of a similar nature.

COQUINA (*Lat.*). CUCINA (*It.*). KITCHEN (*Eng.*). The Roman word for the compartment intended for culinary purposes.

CORINTHIUS ORDO (*Lat.*). ORDINE CORINZIO (*It.*). CORINTHIAN ORDER (*Eng.*). See "Orders of Classic Architecture" page 250.

CORONA (*Lat.*). CORNICE (*It.*). CORNICE (*Eng.*). The highest of the three main sections of the entablature, so called from "Corona" Crown, because it crowns an erection. The following are the general canonical mouldings of the classic cornice, occasionally of course subject to minor deviations. In the Etruscan and Roman Doric Orders it consists of the "Cymatium," the "Depluvium," or Hypocyma the "Ovulo" and the "Cavatio," placed immediately under each other in the above sequel. The Greek Corona is as a rule much narrower, and composed of a slender decorated cymatium over a very broad depluvium and small cavatio, and the Greek Ionic of a double filleted cymatium surmounting a broad depluvium, denticulus and cavatio. The Roman Ionic differs from that of their Doric by being more ornate and by the addition of the denticulus and ovumanchoræ. The Greek Corinthian cornice is usually very similar to their Ionic except occasionally for the superposition of the antefixus on the cymatium. The Roman Corinthian and Composite consists of the four mouldings mentioned above with the addition of the "Mutulus" or Modillion besides the denticulus and ovumanchoræ, only that with the Composite the mouldings are generally more profusely ornamented.

CRATER (*Lat.*). VASCA (*It.*). BASIN (*Eng.*). The term applied to indicate any hollow receptacle for the retention of water and more especially in reference to fountains. Some etymologists derive the word from the Greek *Krato*, to hold.

CREPIDO (*Lat.*). PARAPETTO (*It.*). PARAPET (*Eng.*). The low wall or balustrade surmounting the piers and arches of bridges or viaducts of which it borders both flanks, or for roads skirting precipitous descents, or for the platforms of elevations or terraces of houses requiring a similar protective erection all round. The most perfect specimen of the Crepido is reported to have been that of the "Pons Aelius" now Ponte Sant' Angelo in Rome, long

since disappeared and which has been replaced by the present inferior one.

CRYPTOPORTICUS (*Lat.*). CRIPTOPORTICO (*It.*) CRYPTOPORTICUS (*Eng.*). A bilingual word arising from the conjunction of the Greek *Kripto*, to conceal, and the Latin "Porticus," Portico, to describe that species of subterranean or superterranean covered corridor, frequently highly decorated, with apertures at its two extremities, which was intended as an escape tunnel or private secret passage. The one still surviving of the Emperor Caligula at the Palatine is remarkable for its fine stucco works and still more for their wonderful state of preservation from A.D. 37-40 to the present day.

CUBICULA (*Lat.*). CUBICULA (*It.*). CUBICULA (*Eng.*). A word derived from "Cubans" lying, reclining, to designate the Roman bed-rooms usually situated in the back part and over the ground floor of the Domus and facing east in order to get the benefit of the morning sun in arising which was considered, and with reason, a highly hygienic measure.

CUBUS (*Lat.*). CUBO (*It.*). CUBE (*Eng.*). The technical name of that solid main central part of a pedestal, or pier, also called "Dado" or Die, which lies between the cornice and the base.

CUNEUS (*Lat.*). CUNEO (*It.*) CUNEUS (*Eng.*). Literally signifying wedge and in architecture applied to specify those spaces in Amphitheatres, Theatres, etc., in the conical form of a wedge by which the "Gradatio" was sectioned and divided.

CURIA (*Lat.*). CURIA (*It.*). CURIA (*Eng.*). When Rome was definitely constituted into a State the inhabitants were divided into three Tribes representing the three races which formed its population, namely: The "Romni" or Romans, the "Tatii" or Sabines and the "Lucumones" or Etruscans. Each of these Tribes were subdivided into ten units to which the denomination of "Curiae" was given, and the three principal men of each Curia, originally constituted the Senate, the greatest administrative and legislative Assembly the world has ever witnessed. In architecture the word Curia was adopted to describe the edifice erected for the meetings of the Senators, otherwise the Senatorial Palace. The first regular

building for this purpose seems to have been the one erected by King Tullius Hostilius, B.C. 671-639, and it appears to have been an uncovered, solid and plain fabric. This Senate-house was reconstructed several times and each time with greater magnitude and magnificence as the number of Senators increased and the importance of Rome grew. There were also other Curiæ in the Sevenhilled City as for instance the "Curia Pompeia" wherein Cesar was assassinated.

CYMATIUM (*Lat.*) CIMA (*It.*) CYMA (*Eng.*). The upper-most moulding of the cornice. There are two sorts of this horizontal moulding, the "Cyma Recta" and the "Cyma Versa," the first is concave in its upper part and convex in its lower and the second is all the contrary, or the reverse, whence its name, and in both cases the profile naturally follows respectively the same configuration.

D.

DELUBRUM (*Lat.*). DELUBRO (*It.*). DELUBRUM (*Eng.*). The epithet given to those Temples which had several chapels within dedicated respectively to various Deities.

DENTICULUS (*Lat.*). DENTELLO (*It.*). DENTEL (*Eng.*). An ornamental moulding resembling a straight series of regular teeth whence its appellation arose from the Latin word "Dens" or tooth. The Dentel is placed in the cornice above or beneath the ovumanchoræ with which it is often coupled in the more ornate Orders, and is considered by some authorities as an appanage more especially of the entablature of the Ionic but it is adopted by the other Orders as well with the exception of the Etruscan.

DEPLUVIUM (*Lat.*). DEPLUVIO (*It.*) LARMIER (*Eng.*). The flat rectilinear member of the cornice under the cymatium. This moulding also called "Stillans" and "Drip," is invariably plain, and deeper or narrower in harmony with the character of the Orders. Its shape corresponds to its original purpose, that of protecting the rest of the entablature and columns beneath by sheltering them from the running or dripping water.

DIAMETRUS (*Lat.*). DIAMETRO (*It.*) DIAMETER (*Eng.*). A term derived from *Thea*, through, and *Metron*, measure, to indicate

the line drawn from side to side from opposite directions to determine the thickness of a body, an architectonic unit of measure consisting of two modules of 30 minutes each.

DIATHYRUM (*Lat.*). DIATIRO (*It.*) DIATHYRUM (*Eng.*). The technical term, born of the conjunction of the Greek words *Thea*, and *Thira*, door, used to indicate a screen or partition.

DIPTEROS (*Lat.*). DIPTERO (*It.*). DIPTEROS (*Eng.*). From the Greek words *This*, two, or double, and *Pteros*, wing, to denote the category of buildings distinguished by two wings or two colonnades, as a rule parallel, and level with each other.

DIVERSORIUM (*Lat.*). DIVERSORIO (*It.*). INN (*Eng.*). A small hotel, a lodging, a hostel.

DIORYX (*Lat.*). DIORICE (*It.*). DIORYX (*Eng.*). The technical term arising from *Theo*, between, and *Rheo*, to flow, to describe specifically the canal that is cut to connect two masses of water such as two lakes, two rivers, or a lake and a river, etc., but also used sometimes in a more general sense for works of this nature.

DOMUS (*Lat.*) CASA (*It.*). HOUSE (*Eng.*). The general appellation given to all Roman private dwellings ranging from the hut to the palace and also adopted to indicate a certain category of public edifices corresponding in a way to the present Italian "Municipio" or the English "Mansion-House." At the beginning, that is, during the Royal and earlier Republican times the height of the Roman houses was limited to 70 Roman or about 65 English feet, but later this law was abolished and the inhabitants were not restricted in respect to dimensions though they rarely exceeded three or four stories. The arrangements and divisions of the private Roman Domus of course varied according to the status and taste of the proprietor but the internal plan was usually as follows. First came the "Vestibulum" next the "Atrium" that led to the "Cavædium" which in its turn opened in the "Triclinium" flanked by the "Alæ" or minor sitting-rooms. The "Cubiculæ" were generally on the upper floors with their annexed "Piscinæ" or Baths. The "Pinacotheca" and the "Bibliotheca" (Picture-Gallery and Library) the "Proeceton" (Servants' compartment) the "Promp-

tuarius ” and “ Coquina (Pantry and Kitchen). In the first class Roman houses there were suites of these apartments facing north, south, east and west, each inhabited according to the seasons and also according to their various purposes : for instance those intended for study, painting or work in general faced northwards to ensure the desirable equality of light, the Bed-rooms faced east in order to be entered by the first rays of the sun, the Meal-rooms had a western aspect to get the benefit of the declining sun, and the Sitting-rooms and Reception Halls fronted south. The interior as well as the exterior of the Patrician Domus was superb in material and artistic design and execution, and, contrarily to the ideas entertained by some people now, the appliances for comfort such as the elevators worked by hydraulic or man power for the many storied houses, the calliductus and hypocaustus otherwise the internal heating apparatus, the numerous baths, etc., were nowise inferior in their line to the aesthetic magnificence of the edifices and furniture. Indeed in one very important respect the entire system of sanitation, convenience and hygiene adopted by the ancient Romans was far superior to ours. They understood and practised the art of utilising nature’s forces in co-operation with the artificial factors in a manner we cannot pretend to, but then their aim was not primarily to get a certain percentage for the capital sunk in the house, in money, but rather to live comfortably, healthily in a beautiful habitation, which were accounted desiderata of much higher value. And though of course luxury, beauty and even the comfort accruing from artificial means were lacking in the poorer dwellings the elementary requirements of health depending on the natural agencies of sun, air and light were enjoyed by all, because the habitations of the indigent were strongly built and on the surface of the soil, and not below its level as so many now live bereft of nature’s benefits (which ought to be the inheritance of all alike), because they have no banking account to their credit. The generic name for the Roman house was as aforesaid Domus, but to indicate its various categories there were other specific designations, the “ Palatium ” or Palace, the “ Mansio ” or Mansion, the “ Domuncula ” or small house or cottage, the “ Magalia ” or hut, and the “ Tugurium ” or hovel. Unfortunately we have

to rely on a few incomplete records for information because very rare and scarce material vestiges of the typical Roman Domus survive, yet these suffice to give a general if inadequate conception of what these edifices were in antiquity.

DORICUS ORDO (*Lat.*). ORDINE DORICO (*It.*). DORIC ORDER (*Eng.*). See "Orders of Classic Architecture" page 230.

E.

ECCLESIA (*Lat.*). CHIESA (*It.*). CHURCH (*Eng.*). This word is a derivation of the Greek *Eklego*, to elect, and signified with the Athenians a meeting of citizens for electoral purposes, whence the Roman "Ecclesiastorium," a building or place for assemblages to hear and deliver speeches generally of a public nature. Subsequently, after the advent of Christianity the word was adopted to describe a sacred edifice for worship and hence its derivatives "Ecclesiastic" and "Ecclesiastical."

ECHEA (*Lat.*). ECHEA (*It.*). ECHEA (*Eng.*). The name for the vases of bronze that were placed in certain parts of the Theatres in antiquity as an acoustic measure to render the voices of the performers more sonorous and clear.

ECHINUS (*Lat.*). ECHINO (*It.*). ECHINUS (*Eng.*). Literally the name of a shellfish of the family of the "Echinoïdes," a sea-hedgehog, and in architecture adopted to denote the lower member immediately under the abacus in the Etruscan, Doric and sometimes Ionic capitals. With the Etruscan and Roman Doric its shape was the third or fourth of a circle cut like the outline of a bowl or basin, with the Greek Doric this member taking a less curved profile, has been described as parabolic, and although according to the canonical prescriptions it ought to be uniformly plain and smooth and almost invariably is so, there are some rare cases in which we find the Echinus ornamented, excepting always the Etruscan. With the Ionic Order the Echinus was deeper and necessarily of a different form consisting of the volutes with the ovumanchoræ and astragalus between.

ELAIOTHESIUM (*Lat.*). ELEOTESIMO (*It.*). ELAIOTHESIUM (*Eng.*). From the Greek *Eleon*, oil, and *Thesis*, place, the designation

applied to the depositaries for oil and unguents with which the bodies of pugilists and wrestlers were anointed before and after their exercises and combats.

EMISSARIUM (*Lat.*). EMISSARIO (*It.*). OUTLET (*Eng.*). A derivation of "Emissio," emission, to denote the orifice opening on a canal by which the water is discharged from any receptacle, more particularly used in reference to lakes and ponds.

EMPORIUM (*Lat.*). EMPORIO (*It.*). EMPORIUM (*Eng.*). The word employed in ancient times to describe the building and place where articles of consumption were stored and also distributed and sold.

ENCARPUS (*Lat.*). ENCARPO (*It.*). ENCARPUS (*Eng.*). The technical term arising from the union of the Greek words *En*, in, and *Karpōs*, fruit, to designate in architecture the ornament of festoons or garlands consisting of fruit, flowers, berries, leaves, etc., bound with ribbons all carved in relief on the frieze, and also adopted for the decorations of other members and sections.

ENODI (*Lat.*). ENODI (*It.*). ENODI (*Eng.*). A term derived from *Othos*, road or street, to denote the small pillars or piers surmounted with busts of Mercury, Apollo, Bacchus, Hercules placed along the roads as the protectors thereof.

ENSTASIS (*Lat.*). ENSTASI (*It.*). ENSTASIS (*Eng.*). The Greek word *Enstasis*, signifying distension, and in architectural language used to indicate the slight and gradual swelling practised sometimes on the shaft usually nearer the base than the capital.

EPHIBEUM (*Lct.*). EFIBIO (*It.*). EPHIBEUM (*Eng.*). A derivation of "Ephibos" or adolescent, to describe the building and place where male individuals of that period of life were trained in athletics, corresponding to the "Palæstra" of the adults. When these structures were destined for females of a similar age they were denominated "Koriceum" derived from *Kori*, maid.

EPILITHIUS (*Lat.*). EPILITIO (*It.*). EPILITHIUS (*Eng.*). Also "Circumlithium." A word derived from *Epi*, on, and *Lithos*, stone, to designate a preparation of now unknown ingredients used by the ancients for the external protection of marble works.

EPISTYLIUM (*Lat.*). EPISTILIO or ARCHITRAVE (*It.*). ARCHITRAVE (*Eng.*). The architectural term for the lowest of the three

principal sections of the entablature which rests immediately on the sustaining columns. It may be composed of one, two or three members called "Facias" diminishing always in depth and usually in length progressively as they descend. In the Doric Orders the architrave consists of one broad fascia, in the Etruscan of two and in the others of two or three. With the exception of the Greek Doric in which the profile of the architrave slightly projects beyond that of the substanding column, in all the other Orders the outline of one of its Facias, generally the lowest, follows perpendicularly that of the column beneath. The term "Epistylum" is a union and modification of the Greek words *Epi*, upon, and *Stylos*, Column, and that of "Architrave" is bilingual composed of the Greek *Arhe*, head or commencement, and the Latin "Trabes," beam, because in pre-architectural constructions the progenitor of this member was a massive beam placed horizontally across the supporting tree-trunks or rough stone piers.

EPITAPHIUM (*Lat.*). EPITAFIO (*It.*). EPITAPH (*Eng.*). A combination of *Epi* and *Tafos*, grave, signifying any inscription over a grave.

ERGASTULUM (*Lat.*). ERGASTOLO (*It.*). ERGASTULUM (*Eng.*). In ancient times the place where slaves were kept working, in modern, a prison with hard labour.

ERISMA (*Lat.*). SPERONE (*It.*). COPING (*Eng.*). The technical term for the projecting parts of buildings and more specifically for the sloping top or covering of walls.

ETRUSCUS ORDO (*Lat.*). ORDINE ETRUSCO (*It.*). ETRUSCAN ORDER (*Eng.*). See "Orders of Classic Architecture" page 225.

EURIPUS (*Lat.*). CANALE (*It.*). CANAL (*Eng.*). The ancient name of the Canal or Straits that separated the Island of Euboia from the mainland and adopted in architecture to designate the open canal running internally round the circumference of uncovered buildings to carry off the water, of which we see surviving traces in the "Curia," the Amphitheatres and Circuses. This term was also used to denote lakes, ponds and tanks, Cicero employs the word in the first sense and Pliny in the second.

EXEDRA (*Lat.*). ESEDRA (*It.*). EXEDRA (*Eng.*). Etymologically composed of the words *Ex*, out, and *Ethra*, seat, and in archi-

ecture applied to designate the constructions generally describing a hemicycle annexed to edifices of importance, a species of open air Saloon surrounded by seats decorated with niches with statues and sometimes with columns located and designed so as to enable the hosts and guests to assemble to rest, converse and witness sports and ceremonies from their own habitations. There were also Exedræ in public resorts such as the Forums. The Exedra of the Palace of Augustus on the Palatine from which the exhibitions in the Circus Maximus could be viewed and the two lateral ones of the Forum of Trajan now vanished, are reported to have been very fine examples.

EXTRADORSUS (*Lat.*). ESTRADOSSO (*It.*). EXTRADOS (*Eng.*). The technical term composed of the Latin words "Extra," out, and "Dorsum," back, to indicate the external border of an arch consisting of one or more fillets.

EXTYPA (*Lat.*). RILIEVO (*It.*). RELIEF (*Eng.*). A term derived from the union of the two Greek words of *Ex*, out, and *Typos*, type, and in architecture adopted to designate that species of ornamental sculptural work that consists of the reproduction of any variety of human and animal forms, of edifices in miniature, plants, flowers or other objects which are not engraved into the surface of any unit nor constitute of themselves an independent entity, but are carved on and above any surface as raised, projecting and adhering decorations forming part of it. There are three grades of Reliefs, namely: the "Extypa Prominens" that is, the "High Reliefs, in which the figures emerge from the superficies half their own diameter, in other words, half their own thickness. The "Mediextypa" in which the projection assigned to them is about one third, and the "Postypa" where the productions are very slightly raised above the level on which they are sculptured, as for example the effigies on coins. The ancient Romans excelled in this branch of decorative sculpture which ranks as the highest of the art except statuary.

F.

FACIES (*Lat.*). FACCIE (*It.*). FACIES (*Eng.*). The architec-

tonic term for the flat, rectilinear, horizontal subdivisions of the Architrave, numbering from one to two in the plainer Orders and from two to three in the others. The lowest or 1st Facia is the narrowest and shortest with its profile corresponding perpendicularly as a rule with the outline of the shaft of the column beneath. The middle or 2nd Facia is slightly deeper and longer. The highest or 3rd Facia is the longest and deepest of the three and also decorated with a broad ornamental fillet at the top. The Frieze may correspond in outline with either of the Facias but the most graceful effect is obtained by the vertical equilinear arrangement of the 1st Facia and the Frieze. With the Dorics the Frieze's and single Facia's profiles correspond perfectly in one perpendicular line. The Facias thus project slightly over each other and are either simply superposed or are divided by ornamental or plain fillets.

FANULUM (*Lat.*). TEMPIETTO (*It.*). TEMPLET (*Eng.*). Also termed "Hanulum." The architectural name for the complete consecrated edifice of small dimensions for religious worship as distinct from the unconsecrated Aedicula.

FASTIGIUM (*Lat.*). FASTIGIO (*It.*). PEDIMENT (*Eng.*). The triangular member surmounting the entire façade of a building, and in a more limited sense the similar one over doors and windows.

FEMUR (*Lat.*). FEMORE (*It.*). FEMUR (*Eng.*). The Latin for thigh-bone and in architecture used to denote the three raised vertical bands which intersect the grooves of the triglyph.

FENESTRA (*Lat.*). FINESTRA (*It.*). WINDOW (*Eng.*). The Latin for the apertures practised in walls of buildings for the admission of light and air.

FERULI (*Lat.*). SCANSIE (*It.*). BENCHES (*Eng.*). The Latin name for the long seats of wood or stone, and likewise for shelves,

FILUM (*Lat.*). FILETTO (*It.*). FILLET (*Eng.*). Literally the Latin for thread and in architecture the generic term for the narrow, flat, or convex rectilinear bands dividing or marking any moulding or member, such as for instance the horizontal fillets of the entablature or the perpendicular ones separating the column flutings.

FLOSCULUS (*Lat.*). FIORELLO (*It.*). FLOWERET (*Eng.*). Literally the latin diminutive for flower and architecturally denoting the

flower-ornament placed in the middle of the abacus of the Roman Ionic, Corinthian and Composite. This ornament is sometimes superseded by the "Fogliatura" or bunch of leaves or by the "Nodus" or boss. In the Greek architecture this ornament is reserved for their Corinthian, not only for the abacus but also for the vas.

FONDATIO (*Lat.*). FONDAMENTO (*It.*). FOUNDATION (*Eng.*) The Latin for the initiatory, massive construction on which the entire subsequent erection stands.

FODINA (*Lat.*). CAVA OR MINIERA (*It.*). CAVE OR MINE (*Eng.*). From the verb "Fodio," to dig, to describe the underground hollows dug in the earth for the purpose of extracting minerals or for undermining strongholds,

FONS (*Lat.*). FONTE, FONTANA (*It.*). FOUNTAIN (*Eng.*). A word signifying in Latin either a natural spring or a constructed fountain designed for the perennial issue of water. In the latter case the Fons consisted of the "Os" or mouth and the "Crater" or basin and was composed of sculptured or fused materials, stone, marble or bronze. The two famous natural fountains of Roma Vetus were those of Juturna and Egeria, the water of the first was the "Aqua Lustralis," the sacred water of Rome used exclusively for religious purposes like the present ritual Holy Water, and the site of the source of the second, a long disputed question, has been at length established on the Mons Cælius wherefore the neighbouring ancient vanished Porta Capena was also known by the name of "Porta Fontanalis" or Fountain-Gate.

FORMA (*Lat.*). FORMA (*It.*). FORM (*Eng.*). Also termed "Graphis" to describe any design, plan, plate, model or map. The phrase for instance of "Forma Urbis Romæ" signified the Plan or Map of Rome.

FORNIX (*Lat.*). VOLTA (*It.*). VAULT (*Eng.*). The Latin technical term for a cupola, arch or vault.

FORUM (*Lat.*). FORO (*It.*). FORUM (*Eng.*). There are no exact counterparts of these centres in modern times. The Roman Fora were divided into two categories viz: the "Fora Venalia" corresponding in a certain measure to our markets, and the "Fora Civilia" which were the administrative, political, social and

business centres of the Roman Cities. Every Forum was provided with at least one Basilica for judicial functions and one for financial transactions ; one Temple for religious service and one Porticus for shelter and business, and some had more than one of each, and were surrounded with porticoes. There were so far as has been ascertained eleven Fora in the Eternal City : Three ' " Venalia " namely, the " Boarium," the " Holitorium " and the " Esquilinum," one which comprised both varieties, the " Romanum" or " Magnum," and seven Fora Civilia, viz : the " Julium," the " Augustum," the " Vespasiani," the " Nervæ " or Transitorium " the " Trajani " or " Ulpianum " the " Antonini " and the " Aurelii." Even the Fora Venalia though destined for the sale of edibles and other necessities and commodities of life, consisted of edifices which in material, design and execution excelled anything we have at present in similar centres, and as for the Fora Civilia they were a series of open-air Museums with their architectural and sculptural treasures perfect and unimpaired. The form given to the Roman Fora was as a rule oblong in the proportion of one third longer than they were wide, but there was no absolutely fixed rule as to their shape and we find for instance the Forum Vespasiani that was an equilateral quadrangle and that of Nervæ four times as long as it was broad. The greatest in dimensions and the most perfect in symmetry and beauty and regularity of plan and arrangements was Forum Trajani, which excited the admiring wonder of so many competent judges in antiquity and of which nothing now remains except the renowned model, memorial Column and a few scattered fragments, the greater part of its site having been obliterated and covered with subsequent buildings. The Greek *Agora*, or Forum, was it appears, square or nearly so in shape and did not equal its Roman counterparts in magnitude and in variety and richness of architecture.

FOVEA (*Lat.*). FOSSA (*It.*). PIT (*Eng.*). The Latin word for any cavity or dug-out. It is also termed " Lacuna."

FRIGIDARIUM (*Lat.*). FRIGIDARIO (*It.*). FRIGIDARIUM (*Eng.*). A derivation of the Latin verb " Frigido," to cool, and in architecture used to indicate one of the main sections in which the Roman

Bathing Establishments were divided intended for cold water ablutions of every description.

FRONS (*Lat.*). FRONTE (*It.*). FRONT, FOREHEAD (*Eng.*). The Latin for the fore part of anything and in architecture the technical term for the façade of a building.

FULTURA (*Lat.*). SOSTEGNO (*It.*) BUTTRESS (*Eng.*). The term to indicate the additional external support in construction, and more specifically the massive props of stone or bricks serving to strengthen buildings, walls, etc., whose height or weight call for this measure.

FUNDULA (*Lat.*). CHIASSO (*It.*). BLIND-ALLEY (*Eng.*). The Latin for a lane or alley that is open only at one end and closed at the other, a cul-de-sac.

G.

GESTATIO (*Lat.*). VIALE (*It.*). AVENUE (*Eng.*). To describe the open route or space bordered by trees or statues or both, generally circular and annexed to their habitations in which the Roman Patricians took their airing riding on horseback, driving in a carriage or borne in a litter, wherefore this word derived from "Gesta"—gest, signifies also "to carry" and hence the "Sedia Gestatoria" of the Roman Pontiffs when they are borne on ceremonial occasions.

GLYPHUS (*Lat.*). GLIFO (*It.*). GLYPH (*Eng.*). An architectural term arising from the Greek verb *Glyfo*, to engrave, to designate sculptured grooves.

GNOMON (*Lat.*). GNOMONE (*It.*). GNOMON (*Eng.*). The Latin term for the instrument composed of a flat horizontal surface furnished with numbers and with the vertical "Stylus" or needle in the centre, which by means of the shadow caused by the sunlight which it casts on the numbers thus points out the hours of the day, commonly known as the Sun-dial.

GRADATIO (*Lat.*). SCAGLIONI (*It.*). TIERS OF SEATS (*Eng.*). From "Gradus" grade, to indicate collectively the circles of seats in any public or private edifice, and more particularly in those destined for spectacular performances for the accommodation of the audience.

GRAECOSTASIS (*Lat.*). GRECOSTASI (*It.*). GRAECOSTASIS (*Eng.*).

A composite word derived from "Græco" Greek and *Stasis*, station, adopted at first to designate the building assigned for the Greek Ambassadors during their sojourn in Rome and subsequently to denote in general the edifices intended for all foreign Ambassadors.

GUTTÆ (*Lat.*). GOCCIE (*It.*). DROPS (*Eng.*). The technical term for the little units invariably six in number with a narrow fillet above them which are placed under the femuræ and grooves of the triglyphs from which they are separated by the band that divides horizontally the frieze from the architrave, in the Doric entablature. The Greek and Roman Guttæ differ in shape and size. Those of the former are square and smaller and they are applied above the triglyph and above the metopes in groups of six always as well as below the triglyph. The Roman guttæ exclusively adopted as the appendages of their triglyphs are larger and of conical form.

GYMNASIUM (*Lat.*). GINNASIO (*It.*). GYMNASIUM (*Eng.*). From the Greek *Gymnos*, naked, to describe in general all schools or buildings intended for training athletes, because the latter were always nude or nearly so during their exercises.

H.

HARPAGO (*Lat.*). RAMPONE (*It.*). CLAMP (*Eng.*). The Latin for the bar generally of metal by which blocks of stone of a construction are fixed together. It also signifies harpoon.

HELICES (*Lat.*). CAULICOLI (*It.*). CAULICOLI (*Eng.*). In botany the plural of "Helix" a plant bearing shoots, a few leaves and no fruit and in architecture the technical term applied to the two joined or interlaced carved tendrils placed under the flower of the abacus and between the volutes of the Corinthian capital and the exclusive characteristic feature of this Order. This architectonic ornament is also termed "Cauliculus" from "Caulis" stem or tendril.

HELIOCAMINUS (*Lat.*). ELIOCAMINO (*It.*). HELIOCAMINUS (*Eng.*). A bilingual term composed of the words "*Helios*"—Greek, Sun, and "Caminus"—Latin, oven, to designate in general any place so

situated and constructed as to be heated by the sun's rays entering through large apertures at regular intervals and sheltered from all cold winds, otherwise a sun-court or corridor. These constructions were massive and generally vaulted, the covering slanting gradually to the perpendicular walls, the upper part being occupied by the apertures that followed the concave shape of the roofing, the lower by alcoves practised in the thickness of the walls. The Heliocamini, another example of the Roman system of utilising nature's powers for the benefit of health, were not only accurately and well built but also often highly and tastily decorated, as for instance the Heliocaminus of the Villa of Mæcenas now disappeared.

HERMA (*Lat.*). BUSTO (*It.*). BUST (*Eng.*). Etymologically derived from *Ermis*, Hermes, Mercury, and applied originally to the statues of this God which consisted of the trunk alone minus arms and legs, a torso, and subsequently the generic term used to indicate busts of all kinds and fashions and of all Deities and personages.

HEXASTYLUS (*Lat.*). ESSASTILO (*It.*). HEXASTYLE. (*Eng.*). From *Ex*, six, *Stylos*, column, to designate an edifice with six columns in front.

HIEROGLYPHUS (*Lat.*). IEROGLIFO (*It.*). HIEROGLYPH (*Eng.*). A word formed by the conjunction of *Ieros*, Holy, and *Glyphos*, a groove, or incision, and employed to define the signs, symbols, figures and letters cut on ancient Egyptian monuments of all descriptions, not excepting sometimes even statues. The Hieroglyphics, which were it is affirmed limited in number to 800, might be either engraved or painted as we find on the sycamore coffins of the mummies, and the Egyptians were perhaps the only people so far as is authentically known, who in these graphic incisions or paintings combined the character of an inscription with that of a decoration.

HIPPODROMUS (*Lat.*). IPPODROMO (*It.*). HIPPODROME (*Eng.*). An architectural term composed of the two Greek words *Ippos*, horse and *Thromos*, road, to describe a horse-race course.

HORREUM (*Lat.*). GRANAJO (*It.*). GRANARY (*Eng.*). The Lat-

in for the magazines or store-houses of grain that were a conspicuous feature of all Roman towns and which testified by their ample dimensions, solid construction and sanitary arrangements to the wise and provident care bestowed by the Romans on all referring to the elementary needs of life and health.

HOSPITIUM (*Lat.*). OSTERIA, OSPIZIO (*It.*). HOSTEL (*Eng.*). From "Hospes" signifying both host and guest, the Latin word to describe any species of building for the accomodation of persons, foreigners or not, which was not their own house.

HUMERUS (*Lat.*). OMERO (*It.*). SHOULDER (*Eng.*). Signifying in Latin also the wing of a bird, and in architecture adopted as the name for the wings of any building.

HYPERTHYRUM (*Lat.*). IPERTIRO (*It.*). HYPERTHYRUM (*Eng.*). This word derived from *Iper*, over, and *Thira*, door, was the technical term applied to denote the member sustained by brackets or pillarets placed over the architrave of the door or window frame in some of the more important edifices in antiquity. This member was designed for two purposes, one to increase apparently the dimensions of the entrance and the other to maintain the level of the horizontal line formed by the colonnade of the Pronaos, wherefore according to the canonical prescription the summit of the cornice of the Hyperthyrum must be parallel and level with the summit of the abacus of the column capital of the colonnade in front of it.

HYPOCAUSTUS (*Lat.*). IPOCAUSTO (*It.*). HYPOCAUSTUS (*Eng.*). A term born of the union of the words *Hypo*, under, and *Kafstos*, burnt, the technical appellation of the furnace built under the Roman private and public edifices of any importance. The Hypocaustus consisted of two stories with a grating between, the lowest for the wood-fire, the upper for the cauldrons for the hot water supply either in its liquid condition or transformed into steam whence it was conveyed by tubes to the various apartments.

HYPOGAEUM (*Lat.*). IPOGEO (*It.*). HYPOGEUM (*Eng.*). A conjunction of *Hypo*, under, and *Ge*, earth, and in architecture the word employed to designate a subterranean construction, but

specifically and almost exclusively for those of the sepulchral class as for instance the Hypogæum Scipionis where the Scipios were interred outside the Porta Appia or the Hypogæum Tarquinii at Cervetri.

I.

IMOSCAPUS (*Lat.*). IMOSCAPO (*It.*). IMOSCAPUS (*Eng.*). The composite of "Imo," low, and "Scapus," shaft, used in architecture to indicate the lower part of a column's shaft.

IMPAGES (*Lat.*). TELAJO (*It.*). FRAME (*Eng.*). Synonymous with "Antepagmentum" another word for the frame-work of a door or window.

IMPLUVIUM (*Lat.*). IMPLUVIO (*It.*). IMPLUVIUM (*Eng.*). The Latin name derived from "Pluvia," rain, for the tanks, generally placed in the Atrium, lined internally with stone or marble, provided with an outlet and usually adorned with a Cippus near. These Impluvii served for the collection of rain-water that was regularly and frequently discharged and renewed and the receptacles themselves preserved scrupulously clean. There are two specimens of these constructions to be seen in the Atrium of the Coenobium Vestalium or Vestals' Convent in the Roman Forum, an indispensable accessory in this case, as according to the rules of this Sisterhood its members were prohibited from using any other than rain-water for their personal requirements.

INCERTUS OPUS (*Lat.*). INCERTO (*It.*). INCERTUS (*Eng.*). The technical term used to define a work in reference to pavements, ceilings and walls not subjected to the rules of the similar ones of an especial character, such as the "Reticulatus Opus," the "Sextilis," etc.

INCRUSTATUS (*Lat.*). INCROSTATO (*It.*). COATING (*Eng.*). The term, derived from "Incrusto" to encase, to describe any concrete covering inclusive of veneering and plating, consisting of entire slabs of marble or stone or sheets of metal or wood applied over a core of any substance, as distinct from the "Arenatum" plaster, or any other coating consisting of a composition. It was also called "Lorica" (Cuirass), and the Romans frequently adopted it in

their architecture as a casing of marble over a core of travertine or of travertine over one of bricks or tufo.

INTERANGOLATUS (*Lat.*). INTERANGOLATO (*It.*). INTERANGOLATUS (*Eng.*). To designate that ornament commonly known as the "Meander" or "A la Grecque" which consists of a continued uninterrupted series of rectangular engaged lines either carved or painted adopted to border cornices of walls or other erections.

INTERCOLUMNIUM (*Lat.*). INTERCOLONNIO (*It.*). INTERCOLUMNATION (*Eng.*). The term derived from the conjunction of "Inter," between and "Columna" column, adopted to denote the spaces between each unit of a colonnade which vary in length and are measured by the diameter of the columns they separate. Hermogenes, the renowned architect of Alabanda in Caria of the particulars of whose life so little has been ascertained, is credited with inventing or rather with formulating and establishing the rules of Intercolumnation, and, further, also of having introduced the "Pseudo" system, that is, the substitution of pilasters for columns, not for the angles of buildings only which was in use before his time, but in the form of a regular pilastral range, thus, as the chronicler observes, economising both cost and work. He divides intercolumnation into five categories distinguished respectively by the following names. 1st, The "Picnostyle" from *Picnos*, thick or close and *Stylos*, column, to designate the narrowest space between each column of a colonnade, fixed at $1\frac{1}{2}$ diameter, otherwise the breadth of the column and a half. Cæsar among others preferred the Picnostyle as is proved by his adoption of it in his Temples of Divus Julius and of Venus Genetrix in his Forum. 2nd, The "Systyle" from *Sis*, with, in which the distance assigned is two diameters. Both these categories are open to objection on the ground that they are calculated to inconvenience the frequenters of the edifices so built as well as partially to conceal the statuary, trophies and decorations of the façade on account of the narrowness of the open passages of the colonnade. 3rd, The "Diastyle" from *Thea*, between, with three diameters of intervening space, This method has the defect of endangering the stability of the entablature which is liable owing to the unsupported length of space to be broken or riven. 4th, The

"Araiostyle" from *Areos*, open or sparse, of $3\frac{1}{2}$, 4 or even more diameters. The edifices of this class are very rarely mainly built of stone or marble, and when so, the architrave was strengthened by ponderous beams of timber and they were necessarily low and heavy. The temples of Ceres and Hercules, Pompey's House, etc., were of this category. 5th, The "Eustyle" from *Ev* (the prefixed particle favorably qualifying a word, as for instance *Ev-morfos*, well made), and in this case therefore denoting the most harmonious, well-regulated and practically best of the intercolumnary systems. In this style the space is established at $2\frac{1}{2}$ diameters except between the two central columns of the façade opposite the main entrance of the edifice where for obvious reasons a greater distance is allowed, a measure that is also mostly adopted by the other categories. The "Eustyle" true to its name, combines elegance with solidity and convenience and has in consequence been favoured frequently in the most graceful and handsome structures of antiquity.

INTERGERINUS (*Lat.*). MURO DI TRAMEZZO (*It.*). PARTITION (*Eng.*). As is known the internal walls, less massive than the external ones, serving to divide the interior of buildings into their several apartments and sections.

IONICUS ORDO (*Lat.*). ORDINE IONICO (*It.*). IONIC ORDER (*Eng.*). See "Orders of Classic Architecture" page 239.

L.

LACINIA (*Lat.*). FRANGIA (*It.*). FRINGE (*Eng.*). To describe in architecture the moulding carved in the shape of a fringe used sometimes for the borders of a frame, cornice or other member.

LACONICUM (*Lat.*). STUFA (*It.*). STOVE (*Eng.*). The term for the apartment in the Baths heated for the purpose of producing perspiration, a steam-bath, and therefore also denominated "Sudatorium" from "Sudo" to sweat. Laconicum likewise signifies a simple stove alone.

LACUS (*Lat.*). LAGO (*It.*). LAKE (*Eng.*). A natural or artificial open cavity in the soil furnished with water. According to Vitruvius the word also signified "Lime-kiln."

LAMINA (*Lat.*). PIASTRA (*It.*). PLATE (*Eng.*). The Latin for any thin sheet of metal, stone or marble.

LAPISPINAX (*Lat.*). PIERTRASOMMA (*It.*). KEYSTONE (*Eng.*). The term for the highest and central stone of an arch or vault, which was frequently ornamented with the Mutulus and provided sometimes with a moveable symbolic figure in triumphal arches.

LAQUEAR OR LUCANAR (*Lat.*). SOFFITTA (*It.*). SOFFIT (*Eng.*). The architectural name for the internal part of an arch, vault or cupola and also for that part of the cornice receding under the cyma and over the frieze of the entablature. In the first case it is either plain composed of squares of stone or marble or decorated with reliefs or panels with or without rosettes, bosses, etc., and in the second it consists of the various ornamental mouldings. One of the finest soffits perhaps in the world is that of the Arch of Titus in Rome.

LATER (*Lat.*). MATTONE (*It.*). BRICK (*Eng.*). The well-known unit so generally employed for the construction of walls, usually rectangular and flat and occasionally embellished with decorations. The Roman "Lateres" from "Later," side, wherefrom "lateral" is derived, were very rarely used alone for the construction of buildings but mostly as the core coated with the "Cortex" (Bark) or "Lorica" (Cuirass) that is, as already noted with a casing of some more costly and concrete material such as travertine, peperino granite, marble or even gold.

LATOMIA (*Lat.*). CAVA DI PIETRA (*It.*). QUARRY (*Eng.*). Also denominated "Lapideus" and sometimes designated by the two words "Lapidarium Latomia" to describe a site consisting of a natural mass of stone or marble, the extraction of which causing hollows or pits, these partially excavated or exhausted quarries served on some occasions as prisons, as for instance the famous "Latomia" of Syracuse, and hence this word was also used metaphorically as synonymous with "Carceres" or prisons.

LITHOSTROTUS (*Lat.*). LASTRICATO (*It.*). STONE-PAVEMENT (*Eng.*). The technical term composed of the union of the words—*Lithos*, stone, and—*Strotos*, layer or stratum, to denote the kind of pavement of those streets, roads, squares, houses consisting

of slabs of stone. The ancient Romans, frequently adopted for their streets and roads the Lava-stone composed of various liquified elements ejected by the volcanic eruptions, which when exposed to the open air solidified into a particularly hard and durable substance or stone.

LOCULLUS (*Lat.*). NICCHIA. (*It.*) NICHE. (*Eng.*). Also "Loculamenta" derived from "Locus" place, to designate in architecture the vertical vaulted cavities practised in the walls usually of the depth of half a circle, in which statues, busts, vases, urns, were placed. As the Roman buildings were plentifully supplied with all sorts of ornamental units sculptured, moulded, chiselled, these open and generally domed receptacles were very frequently to be met with hollowed in the surrounding walls of Cellæ, Exedrae, Chaladici, etc. In the "Columbariæ" the term was applied also to the range of rectangular, low and much deeper receptacles in close proximity to each other for the ashes of the dead arranged in several tiers.

LUCANARIA (*Lat.*). ASSICELLE (*It.*). PANELS (*Eng.*). The technical name for the quadrangular, triangular, oval, polygonal or circular mouldings usually ornamented and provided with a raised border arranged so as to form one entire pattern or set of patterns that served as a decoration for walls, ceilings and soffits. In the three surviving vaults of the Basilica Maxentia in the Roman Forum there are some very fine specimens of this decorative work still to be seen, and though stripped of their gold rosettes and sorely damaged, reveal by their proportions and contour their pristine artistic value.

LYCEUM (*Lat.*). LICEO (*It.*). LYCEUM (*Eng.*). Originally the appellation of the locality and building in Athens where Aristotle taught and now the name applied to public schools of a certain class.

LYSIS (*Lat.*). LISI (*It.*). LYSIS (*Eng.*). From—*Liso*, to resolve, to solve and in architecture used to denote the summit of anything, particularly of a cornice also to designate the ornamental units placed on the point of a dome or pinnacle, a "Finial"

M.

MACELLUM (*Lat.*). MACELLO (*It.*). SLAUGHTER-HOUSE (*Eng.*). The Roman word for the building where animals were killed for food, and also where the meat was sold.

MALTHA (*Lat.*). SMALTO (*It.*). ENAMEL (*Eng.*). The Latin name for all glossy coating compositions of this nature. With reference to architecture there were two kinds of Maltha, that applied to plain or decorated works consisting of very fine layers of "Majolica" (a composition of glass, talcum and clay), and that used for pavements and sometimes for walls and ceilings, termed "Res Lapidea" or "Encaustus," a calcareous enamel coarser and stronger than the other.

MANDRA (*Lat.*). STALLA (*It.*). STABLE (*Eng.*). This Latin word has three very different meanings, a construction reserved for horses or cattle, a tavern, and the alternating squares of different colours on a chess-board or any other surface.

MARMORATUM (*Lat.*). STUCCO (*It.*). STUCCO (*Eng.*). The Latin term for a composition very frequently and successfully adopted in Roman structures. There are two species of stucco, the one consisting of a fusion of lime, clay and powdered marble mixed with water which results in a kind of cement, the other liquified chalk passed through a sieve and then moistened with hot water in which is dissolved gum of Flanders. This amalgamation on drying assumed the aspect of marble and acquired an extraordinary degree of durability. But the secret of the secular preservation of the Roman Marmoratum moulded in their exquisite reliefs has been lost to posterity and our imitation stuccoes are as gold-leaf is to chased gold. Among the surviving specimens of the ancient stucco works may be cited those of the Mausoleums of the Valerii and Pangratii on the Via Latina.

MASTUS (*Lat.*). MAMMELLA (*It.*). NIPPLE (*Eng.*). The technical term to designate the mouth of a fountain-head, from which the water issues because it resembled in shape the nipple of the human breasts.

MAUSOLEUM (*Lat.*). MAUSOLEO (*It.*). MAUSOLEUM (*Eng.*). The highest class of sepulchral structures which derives its name from

Mausolus King of Caria to whom his sister and wife Artemisia erected B.C. 353 a superb sepulchral monument in which architecture and sculpture vied in the exquisite productions of the foremost artists of an artistic age and race. The intention of the devoted Queen to perpetuate the memory of the object of her love and worship has been crowned with complete success because Mausolus would certainly not have been so widely and secularly known and remembered if it had not been for this artistic treasure. The other two most justly renowned constructions of this description were the magnificent Mausoleums of Augustus and Hadrianus in the Campus Martius of Rome. Of these three masterpieces there survive some fragments of the first in the British Museum of London, of the second, B.C. 28, a small open space with a wall section built upon it in the Via Coreia near the Tiber bank and some Cinerary urns, and of the third A.D. 134-39, the core of the foundation and first storey of the Mausoleum transformed into the well-known Castel Sant' Angelo and a few ornamental units such as the bust of Hadrian and the bronze Pine-cone and Peacocks in the Vatican.

MEMBRUM (*Lat.*). MEMBRO (*It.*). MEMBER (*Eng.*). The word to denote in general any distinct unit appertaining to and forming part of a body, physical, scientific, professional, political, artistic, social, etc., and in architectural language the term "Membrum" constitutes no exception in signification. For example the Cornice, the Shaft, the Base, etc., are all members, and its derivation "Membratura" is the collective term for the assemblage of members regarded as a whole.

MENTUM (*Lat.*). GRONDAJA (*It.*). GUTTER (*Eng.*). Also "Sulgrundium" and "Suggrunda," the Latin for the small canal running under the roofing, covering or top of any structure to convey and carry off the rain-water.

META (*Lat.*). META (*It.*). GOAL (*Eng.*). In architecture this name was given to the erections, one at each extremity of the Spina, a low, broad wall traversing lengthwise the Circus, consisting of three cones placed on an elevated base to mark the winning-post for the racers. These Metæ were at first made of wood which the Emperor Claudius had gilded and subsequently of other materials.

METOPA (*Lat.*). **METOPA** (*It.*). **METOPE** (*Eng.*). Literally the Greek word for forehead—*Metopon*, and adopted in architecture to designate the flat, quadrangular spaces, plain or decorated, in relief, between the triglyphs of the Doric frieze.

MILLIARIUM (*Lat.*). **MILLIARIO** (*It.*). **MILESTONE** (*Eng.*). As is known the stone placed at intervals on a route with its inscription to measure the mileage. The "Milliarium Aureum" or Golden Milestone was a massive gilded low pillar erected B.C. 28, in the Forum Romanum on which were inscribed all the main roads issuing from the Eternal City together with the Postal stations, and from this centre the mileage was counted. The epithet of "Milliarium" arose from the fact that the distance between each of these Milestones was fixed at one thousand (Millia) paces.

MINUTUS (*Lat.*). **MINUTO** (*It.*). **MINUTE** (*Eng.*). An architectural unit of measure. The thickness or diameter of a shaft at the bottom consists of two modules of thirty minutes each, otherwise it was divided into sixty parts called "Minutes." The Minute therefore, like the Diameter and the Module, is necessarily a proportional and not a determined measure, because the dimensions of columns varied in conformity with their several Orders, and in consequence the diameter, module and minute for instance of the Doric column exceeded those of the Ionic and similarly with respect to the rest.

MODULUS (*Lat.*). **MODULO** (*It.*). **MODULE** (*Eng.*). This architectural term has two distinct significations, the one as above mentioned to denote a unit of measure equivalent to thirty minutes or half a diameter, and the other to designate comprehensively those parts, flat, round, convex, concave, ornamented or plain, called in Italian "Modanatura" and in English "Mouldings" which serve to mark, define or decorate the various members and sections. There are two kinds of Mouldings those that stand alone such as the anulus, apophyge, etc., and those that form part of a section, such as the cavetto.

MOENIA (*Lat.*). **MURA** (*It.*). **WALLS** (*Eng.*). This word signifies in Latin City-walls as distinct from the "Muri" or House-walls.

The walls of Rome were built and rebuilt several times but the two types that have best stood the test of time are the Servian, B.C. 578-34 and the Aurelian A.D. 270-75, the first consisting of alternate layers and stretchers of blocks of peperino, travertine or tufo with their "Aggeres" or Rampant-mounds, and the second of brickwork with their bastions, battlements and towers. The Romans were notable mural constructors as they proved, not to cite other examples, in their walls in Britian and on the Danube, but so long as Rome was in her zenith there was no need for walls to protect her as she was unassailable, and when she declined she became as incapable of producing fine works as of protecting herself under any circumstances. In consequence the walls of the Seven-hilled City, which was continuously, rapidly and enormously increasing in extent and population, not being necessary did not engage the attention of those mighty and versatile constructors in the same degree in this direction as in others. The "Pomoerium" (a contraction and union of "Post" "Moerium" or beyond the Walls) was a circular space either within or without the City-walls consecrated by the Augurs and dedicated to the Gods, within the precincts of which it was forbidden to build, to cultivate or to use for any purpose. This Pomoerium constituted thus a veritable sanitary belt of wild trees and plants around the City that was decidedly beneficial to the mortals there whatever it may have been for the Immortals to whom it theoretically belonged. The site of this Holy and sanitary cordon could not be removed or extended save by the Dictators and Emperors who had also extended previously the limits of the State and subject always to the authorization of the Pontifex Maximus.

MONOLYTHUS (*Lat.*). MONOLITO (*It.*). MONOLITH (*Eng.*). This word born of the union of *Monos*, one, and *Lithos*, stone, is used in architecture to indicate any erection consisting of one single block of stone or marble.

MONOPTERALUS (*Lat.*). MONOPTERALO (*It.*). MONOPTERAL (*Eng.*). Literally signifying "one-winged," and in architecture the term applied to one of the three categories into which the Roman round Temples were divided, viz: The "Monopteralus," the "Peripteralus" and the Pseudo-Peripteralus," The first named con-

sisted of a circular colonnade alone without any separate walled Cella, surmounted likewise by a circular entablature sustaining the cupola with the statue of the titular Divinity occupying the centre of the encircled space. The "Peripteralus" was on the contrary a walled Cella, either with an encircling colonnade from which it was separated by a corresponding surrounding space, or having a pronaos of columns at its façade. The Templet of Vesta at Tivoli and the Panthæum at Rome are respectively specimens of the two varieties of the Peripteralus. The Pseudo-Peripteralus (False-Peripteral) signifies that instead of a colonnade we are dealing with a pilastrade, or range of pilasters attached to the walls of the Cella. The term "Monopterus" was applied to all structures in general having one wing or range of columns.

MONUMENTUM (*Lat.*). MONUMENTO (*It.*). MONUMENT (*Eng.*). A derivation of the Latin verb "Moneo," to remember, and in architecture adopted to denote all the constructions that were erected in memory of some personage, achievement or event, and therefore owing to their high purpose distinguished as a rule by the costly quality of their materials and the grand and artistic style of their architecture.

MUSAEUM (*Lat.*). MUSEO (*It.*). MUSEUM (*Eng.*). The term adopted as its etymology denotes, to describe any place consecrated to the "Musæ" or Muses, otherwise the Fine Arts, severally typified in antiquity by symbolic ideal female figures presided over by Apollo, the Sun and Music Deity of the poetical Pagan Faith, and in architecture used to designate the edifices destined for the custody, conservation and classification of the productions of former or contemporary generations in art, science, literature, etc., and also for preserved specimens of the animal, vegetable and mineral Kingdoms.

MUSIVUM OR EMBLEMA (*Lat.*). MOSAICO (*It.*). MOSAIC (*Eng.*). The art of representing any subject, scene or design by means of joining together accurately and harmoniously small pieces of various materials and hues. There are two species of Mosaic, the one composed of particles of tile, stone or glass artificially coloured or gilt, the other of atoms of variegated valuable marbles such as porphyry, malakite, jasper, etc. In both its branches this work may be con-

sidered as the most durable of the coloured decorative systems, because in the first case the painting and gilding of the component pieces are almost indelibly fixed by fire process, and in the second the hues being natural through the substances employed they are consequently ineffaceable. Mosaic is one of the few art inventions of antiquity transmitted to posterity which has not sensibly deteriorated despite the prevalent ineptitude, hurry and carelessness of moderns that have wrought so much mischief in other directions. There are at present several manufacturies of Mosaic, that of Rome being one of the best. The Byzantines also favored Mosaics very much if not very artistically. The pavements of this work called "Alla Veneziana" though of course of lesser artistic merit are likewise attractive and much appreciated.

MUTULUS (*Lat.*). MUTULO, MODIGLIONE (*It.*). MUTULUS, MODILLION (*Eng.*). The "Interpensiæ" or rafters of the pre-architectural buildings placed under and projecting beyond the roofing and gutter as supports which had their extremities hewn off, became by the beautifying transformation wrought by art the two ornamental mouldings of the cornice of the entablature technically termed the "Denticulus" and the "Mutulus," the latter commonly called the "Bracket Ornament." When the Mutulus was applied in a series to the Roman Doric, because it is an essentially Roman ornamental moulding, it was given the shape of regularly cut, rectangular blocks bordered on the top by a slanting, projecting fillet or fillets, and when used for the Roman Corinthian or Composite (rarely for the Ionic) it was of a graceful sinuous form, topped always by the fillets, like the letter "S" not in its usual position upright, but placed horizontally, and enriched by tasteful carvings. When this decorative member was not applied in a range, but alone, cut on the keystone of a monumental Arch or otherwise isolated and attached to walls it has been called "Console" and "Mensole." With the Romans the term "Mutulus" comprised all its varieties of shape and application.

N.

NAUMACHIA (*Lat.*). NAUMACHIA (*It.*). NAUMACHIA (*Eng.*). A

term deriving from a conjunction of the words *Nafs*, ship, and *Mahe*, battle, and in architecture applied to buildings erected for the representations of Sea-fights, the combatants thereof being denominated "Naumacharii." These constructions, often temporary, consisted of the "Gradatio" or enlarging tiers of seats for the audience surrounding an artificial or natural lake that substituted integrally the "Arena" of the Land-combats or sports of the Amphitheatres or Circuses. The latter were however also occasionally converted into ephemeral Naumachiæ for these bellicose naval spectacles and some of them frequently so, as for instance the Amphitheatre of Milan, in which case these edifices were provided with a canal expressly annexed to inundate the entire Arena when required and an Emissarium to discharge the water. Though theoretically mimic naval battles these exhibitions were in fact mortal combats in which the casualties were numerous, the combatants numbering sometimes as many as 19,000, as Tacitus narrates at the Naumachia of the Lake Fusino in the reign of Claudius. Naumachia also signifies a naval battle.

NAVALIA (*Lat.*). DARSENA (*It.*). DOCK (*Eng.*). The name of the construction serving as a naval station, for building, repairing and launching vessels.

NODULUS (*Lat.*). NODINO (*It.*). KNOT (*Eng.*). In architecture denoting the ornamental boss wrought on friezes, capitals, etc.

NOSOCOMIUM (*Lat.*). NOSOCOMIO (*It.*). HOSPITAL (*Eng.*). A term derived from *Nosos*, disease, and used to indicate any sort of hospital but more especially those intended for the indigent.

NUMISMA (*Lat.*). MEDAGLIONE (*It.*). MEDALLION (*Eng.*). The architectonic term to describe the circular, oval, oblong, quadrangular decorative units furnished with a border on which are carved or engraved figures, designs or scenes symbolic, allegorical or otherwise, that served to ornament piers, pedestals, walls, soffits, etc., of a monument or edifice.

NYMBUS (*Lat.*). NIMBO (*It.*). NIMBUS (*Eng.*). Originally the name given to the band with which women bound the forehead in order to diminish apparently its height, a low one being considered

a beauty, and subsequently adopted to designate the "Halo" or "Aureola" placed round the heads of Imperial personages in antiquity and of Holy personages in mediæval and modern times. This Disk with or without rays, frequently gilded (whence one of its epithets "Aureola" from "Aurum," gold) might be produced by painting, mosaic, incision, carving or moulded or sculptured according to the nature of the effigy or statue. The Nimbus of the earlier Christians, so utterly unartistic and anti-artistic, was triangular or quadrangular in shape till the IV century, after that they copied and adopted the more graceful and significative circular Nimbus of the Pagans.

NYMPHAEUM (*Lat.*). NIMFEO (*It.*). NYPHEUM (*Eng.*). The word "Nympha" had two meanings, a bride, or a Semi-Deity, not endowed with immortality but with extreme longevity in this world and subject, as Pausanius adds, to many woes. In exceptional cases the Nymph might be granted immortality as for example with Juturna to whom Jupiter conceded eternal existence in exchange for virginity. There were several categories of these beings, namely; the "Oreades" or Mountain-Nymphs, the "Nereides," or Marine-Nymphs, the "Naiades" or Fluvial-Nymphs, the "Dryades" or Sylvan-Nymphs, the "Neptæ" or Orchard-Nymphs, the "Hamadryades" or One-tree Nymphs, the "Lemoniades" or Meadow-Nymphs, the "Limniades" or Pool-Nymphs and Homer and Hesiod give also others. The particular place or building sacred to these creatures (whose appearance was nebulous and whose functions have not been clearly defined but who were among those fantastic creations so dear to the imaginative ancients that endowed and animated inanimate nature with a fascinating, poetical life) were denominated after them "Nymphæum" this epithet being alike applied either to the natural grotto, pool, lake or cluster of trees assigned to them or to the artificial shrine or chapel built for them, but in both cases provided with a spring or fountain. Later in Rome this term in its connection with bride was used to describe the edifices intended exclusively for the celebration of weddings for those who did not possess an appropriate apartment in their habitations for this nuptial ceremony; and also to designate the annex of every Domus

of importance serving as a summer Saloon always with the indispensable fountain, generally of hemispherical form and highly decorated with stuccoes, statuary, etc.

O.

OBELISCUS (*Lat.*). OBELISCO (*It.*). OBELISK (*Eng.*). The appellation, conjectured to be derived from *Ovelos*, spit, applied to the equilateral, quadrilateral, rectangular generally monolith pillar diminishing in diameter as it soars upwards from its base to terminate in an apex, usually assumed to be an invention of the Egyptians and certainly a conspicuously characteristic feature of their architecture, though among the ruins of Indian and other architectonic styles these monuments are to be met with. The Egyptian Obelisk is the recognized canonical type and is mostly composed of very hard stone (found also in Italy called "Sienite" of a red, violet or grey hue) or of red or grey indigenous granite or of porphyry. The height of these counterparts of the Roman isolated honorary columns, varies very much and their diameter has been calculated from one eighth to one twelfth of their altitude. The Egyptians erected their Obelisks with or without a base mostly at the façade of their Temples in front of the statues of their Kings. The four sides of the Obelisks were frequently inscribed with hieroglyphics recording the names, achievements, events and dedications of the Sovereigns.

OBEX (*Lat.*). SBARRA (*It.*). BAR (*Eng.*). The Latin for the rod or clamp which was used to fix together blocks of stone, though the word was also adopted in a more general sense as well for any bar.

OBVALLATUS (*Lat.*). CINTA (*It.*). CITY-WALLS (*Eng.*). The Latin to denote the mural circumvallation of a town comprising ramparts, towers and bastions.

OCULLUS (*Lat.*). OCCHIO (*It.*). EYE (*Eng.*). The technical term for the ornament placed in the centre of the volutes from which their convolving lines commence.

OCTASTYLUS (*Lat.*). OTTASTILO (*It.*). OCTASTYLE (*Eng.*). The architectural term applied to an edifice with eight columns in front.

ODAEUM (*Lat.*). ODEON (*It.*). ODEUM (*Eng.*). A word derived from *Othe*, song, to indicate a Theatre, generally small, or Music-Hall, built expressly for musical performances of a vocal nature.

OINOPOLIUM (*Lat.*). TAVERNA (*It.*). TAVERN (*Eng.*). A composite word from *Inos*, wine, and *Polos*, to sell, otherwise the buildings for the sale of wine, a bar, an inn, a tavern.

OLLA (*Lat.*). OLLA (*It.*). OLLA (*Eng.*). This word has two distinct significations, a vase or urn to contain the cremated ashes of the dead, and a cooking utensil, a pan, in the first case called "Olla Cinerariæ" and in the second "Olla Animatoriæ" when the steam issued from a hole or aperture.

OPA (*Lat.*). BUCO (*It.*). ORIFICE (*Eng.*). The Latin for hole in general and in architecture to specify those holes which were made for the introduction of bars or beams in buildings.

OPPIDUM (*Lat.*). CASTELLO (*It.*). CASTLE (*Eng.*). One of the Latin words to designate a fortress or stronghold of small dimensions.

ORCHESTRA (*Lat.*). ORCHESTRA (*It.*). ORCHESTRA (*Eng.*). The name given to the section of any building intended for musical performances or other spectacles, which was reserved for the musicians, only with the Romans this section was assigned to the vocal performers or chorus whereas with the Greeks it was allotted only to the instrumental performers or band.

ORPHANOTROPHIUM (*Lat.*). ORFANOTROFIO (*It.*). ORPHAN ASYLUM (*Eng.*). The denomination applied to establishments for parentless minors as denoted by the etymology of the composite word from *Orfanos*, orphan and *Trofe*, nourishment.

OS (*Lat.*). BOCCA (*It.*). MOUTH (*Eng.*). This word has four meanings, a feature of the face, the point where a river discharges itself into the sea, a bone and the aperture of a canal or fountain.

OSTIUM (*Lat.*). PORTA (*It.*). DOOR (*Eng.*). A term derived from "Os" to indicate a door of a house as distinct from "Porta" or city-gate, whence "Ostiarius" or Hall-Porter. The chief Sea-port of ancient Rome was named "Ostia" because it was situated at the mouth of the Tiber and the road leading to it "Via Ostiensis."

OVILE (*Lat.*). OVILE (*It.*). OVILE (*Eng.*). This term is derived from "Ovum," egg, and was applied to the constructions in Ancient Rome intended for the assemblage of voters, a polling-booth, and also used to describe a communal building.

OVULO (*Lat.*). OVOLO (*It.*). OVOLO (*Eng.*). The technical term for the convex mouldings projecting about a quarter of a circle from the cornice either plain or decorated. Also commonly called quarter-round.

OVUMANCHORAE (*Lat.*). OVANCORA (*It.*). OVUMANCHORAE (*Eng.*) The decorative moulding consisting of egg-shaped and anchor carvings alternating, adopted for the entablature usually placed over the Dentel, and in the Ionic and Composite capitals between the Volutes, commonly known as the "Egg and Anchor" or "Egg and Arrow Ornament."

P.

PAEDAGOGIUM (*Lat.*). PEDAGOGIO (*It.*). PEDAGOGIUM (*Eng.*). A term composed from *Pes*, child, and *Ago*, to lead, to describe a building erected as a school or college, originally it appears for the instruction of pages and afterwards applied in a wider sense.

PALÆSTRA (*Lat.*). PALESTRA (*It.*). PALESTRA (*Eng.*). As may be inferred from its etymology this term is derived from the Greek root *Pale*, struggle, adopted in architecture to designate a construction destined for athletic exercises of adults. There is a difference between the Palæstra and the Gymnasium which has furnished controversial arguments to the erudite. The conclusion may be drawn that the distinction was that the Palestra signified a building intended for the twofold purpose of exercise and instruction and also for regular spectacular performances while the Gymnasium meant exclusively a school for the athletic science.

PARASTATA (*Lat.*). PILASTRO (*It.*). PILASTER (*Eng.*). This architectural term derived from *Para*, by or near, and "Stata" stand, to designate a pillar attached to the walls or angles of edifices. The Parastata projects about one half of its own diameter from the surface to which it is attached and may be either semi-circular or quadrangular or rather duangular in shape. In the

cases when the pilaster does not substitute the column as a range but is placed only at the angles it usually but not invariably follows the Order of the colonnade of which it is the terminating accessory. This member is also termed "Orthostata" from *Orthos*, upright, and "Stata," or "Columna Structilis" (Structural Column).

PARIES (*Lat.*). PARETI (*It.*). PARTITION (*Eng.*). From "Par," equal, to indicate the internal walls or partitions.

PEGMA (*Lat.*). CATAFALCO (*It.*). SCAFFOLDING (*Eng.*). An elevation generally temporary either for an oratorical speech or for the deposition of a bier or for building purposes.

PENTASTYLUS (*Lat.*). PENTASTILO (*It.*). PENTASTYLE (*Eng.*). The technical term from *Pende*, five and *Stylos* to denote an edifice having five columns in front.

PERIVOLUS (*Lat.*). PERIVOLO (*It.*). PERIVOLUS (*Eng.*). The denomination given to the consecrated site of and about a Temple.

PERIPTERUS (*Lat.*). PERIPTERO (*It.*). PERIPTERUS (*Eng.*). From *Peri*, around or about, and *Pteron*, wing, the architectural term for edifices provided externally with columns and classified as the fourth Order. "Pseudo-Peripterus" (the qualificative "Pseudo" from *Psevma*, signifying false) was the name applied to a building having an external pilastrade instead of a colonnade and belonged to the fifth Order of edifices. The Templet of Fortune in Rome is a specimen of an Ionic Pseudo-Peripterus.

PERISTYLIUM (*Lat.*). PERISTILIO (*It.*). PERISTYLE (*Eng.*). The technical term to describe any building or section of a building surrounded internally with columns, an Atrium, a Temple, a Palæstra, etc., may be a Peristyle.

PICTUS (*Lat.*). RECAMO, INTAGLIO (*It.*). EMBROIDERY (*Eng.*). The Latin word to describe in architecture any finely traced, chased or cut ornamental work on arches, entablatures or other sections, a fret-work, an arabesque.

PILA (*Lat.*). PILA (*It.*). PIER (*Eng.*). The technical term for the massive vertical member attached to or inserted in walls, or flanking vaults, gates and arches, serving both as a decoration and a support. The word "Pier" is also used to indicate a wharf or jetty.

PINAX (*Lat.*). SOMMIERO, CIMA (*It.*). PINNACLE, FINIAL (*Eng.*). The highest point of any structure or section of a structure.

PISCINA (*Lat.*) PISCINA (*It.*). PISCINA (*Eng.*). Etymologically derived from "Pisces" Fish, and originally signifying a small pond or tank wherein fishes were preserved, but afterwards applied by the Romans as a comprehensive term to indicate, also reservoirs of all sorts, basins, and baths. In biblical terminology the word was used to designate the reservoirs of water near the Temple of Jerusalem where the animals to be sacrificed were washed.

PLANUS (*Lat.*). PIANO (*It.*). STORY (*Eng.*). The Latin for the main section horizontally and successively superposed of a building divided internally into various rooms and compartments. The ancient Roman secular edifices consisted of one, two, three or four tiers, rarely reaching five, though it is reported that the Domus Neronis had five or six and the Domus Septimia seven. The Flavian Amphitheatre and the Mausoleum Hadriani were built each with four tiers corresponding to four architectonic Orders, namely, the Etruscan Rectus and Roman Doric for the ground floor respectively, and progressively upwards, the Ionic, Corinthian and Composite. The Greek edifices were as a rule much lower, consisting of one or two stories.

PLASTICE (*Lat.*). PLASTICA (*It.*). MOULDING (*Eng.*). From *Plastis*, Creator, the word employed to designate the art of modelling or forming any shape, design or figure in any substance previously rendered ductible.

PLATEA (*Lat.*). PIAZZA (*It.*). SQUARE (*Eng.*). From *Platis*, wide, to describe any broad open space generally in a town and surrounded by buildings. The "Platea" for instance of the Forum Romanum was a central open space it is said, though authorities differ, of about 400 feet both ways, lying between the Rostra Flavia and the Rostra Cæsar's decorated with statuary, etc. That of the Forum Ulpianum was much larger, highly ornamented and flanked by the hemispherical Exedrae, and the square of Hadrian's famous Villa was called "Platea Aurea," or Golden Square owing to the plates of gold that cased its walls.

PLEXUS (*Lat.*). INTORTIGLIATO (*It.*). PLAITING (*Eng.*). The

term used in architecture to denote any work of incision, carving, moulding, etc., of a twisted, plaited, interlaced character.

PLINTHUS (*Lat.*). PLINTO (*It.*). PLINTH (*Eng.*). The technical term for the lowest member of the base of columns, pilasters, etc., on which all the rest stands. It is plain, massive and usually quadrangular, though occasionally it may be round or polygonal as in the Egyptian and other architectures in order to allow of a greater space between the columns.

PLUTEUS (*Lat.*). PARAVENTO (*It.*). SCREEN (*Eng.*). This word has several meanings, a military machine, a table, a shelf, and in architecture is a synonym of Diathyrum or marble screen, generally with reliefs, placed in public edifices to divide the various sections without secluding them from each other.

PODIUM (*Lat.*). PODIO (*It.*). PODIUM (*Eng.*). This word has three significations. The pulpit or box assigned for the Senators, Consuls, Vestals, Pontifices and Ambassadors in public ceremonies or spectacles, the lowest section or foundation of a building above the level of the soil and the long continued base of an elevated colonnade.

POICILE (*Lat.*). PECILE (*It.*). POICILE (*Eng.*). A term derived from *Pikele*, varied, and originally applied to the Variegated Porch, where the sect called the "Stoics" (from *Stoa*, Porch) congregated and hence sometimes used generically to describe an ornamental Hall, or Porch.

PONS (*Lat.*). PONTE (*It.*). BRIDGE (*Eng.*). The construction furnished with arches, piers and parapet serving to connect two opposite banks over a river, harbour, canal or any other water way.

PORTA (*Lat.*). PORTA (*It.*). GATE (*Eng.*). This term owes its origin it appears to the furrow drawn by Romulus round the Palatine Hill to mark the limits of primæval Rome. The plough used in this occasion was lifted up and carried over certain spots marked out for the gates of the infant city and hence from the verb "Portare," to carry, arose "Porta" or Gate.

PORTICUS (*Lat.*). PORTICO (*It.*). PORTICO (*Eng.*). The architectural term for a covered structure supported by columns of two

kinds, either a porch erected at the entrance of a building or a long gallery. The Roman Porticoes were an important class of their architecture.

PORTUM (*Lat.*). PORTO (*It.*). PORT (*Eng.*). Any harbour, port or station for shipping.

POSTICUM (*Lat.*). POSTICO (*It.*). POSTICUM (*Eng.*). The designation given to the back part of an edifice.

PRAECINCTIONES (*Lat.*). PARETI (*Lat.*). PARTITIONS (*Eng.*). The Latin word to indicate specifically the partitions dividing horizontally the rows of seats of public buildings and especially those intended for spectacular performances.

PRAEDIUM (*Lat.*). FONDO (*It.*). ESTATE (*Eng.*). The Latin word to describe landed property generally including buildings upon it.

PRAEFIXUS (*Lat.*). PREFISSO (*It.*). PREFIXUS (*Eng.*). From "Pre," before, and "Fixus," fixed, to denote in architecture any ornament or unit which was attached to the body of the building.

PRAETORIUM (*Lat.*). PRETORIO (*It.*). PRETORIUM (*Eng.*). The public edifice assigned to the Pretors to discharge their official functions. A Roman Judgment-Hall.

PRESBYTERIUM (*Lat.*). PRESBITERIO (*It.*). PRESBYTERY (*Eng.*). A derivation of the word *Presvis*, elder, to designate in architecture the compartments belonging to religious buildings reserved for the use of the priests.

PRODUCA OR SYNAGOGA (*Lat.*). SINAGOGA (*It.*). SYNAGOGUE (*Eng.*). The first word derived from the Latin "Prosequor," to accompany, and the second from the Greek *Sin*, with, and *Ago*, to lead, and adopted at first to denominate any building destined for the assemblage of Jews and subsequently specifically for their religious edifices.

PROFLATUS (*Lat.*). FUSO (*It.*). CAST (*Eng.*). The Latin for the art of introducing liquified substances into a hollow recipient in order to take the internal shape of the latter when solidified.

PRONAOS (*Lat.*). PRONAO (*It.*). PRONAOS (*Eng.*). A composite word derived from *Pro*, before, and *Naos*, Temple, to indicate

in architecture the Portico or covered colonnade before the façade of a Temple.

PROPUGNACULUM (*Lat.*). BALUARDO (*It.*). BULWARK (*Eng.*). Any construction intended for protection and defence, a rampart, a trench, a blockhouse, etc., derived from "Pro" and "Pugna," battle.

PROPYLAEUM (*Lat.*). PROPILEO (*It.*). PROPYLEUM (*Eng.*). A word derived from "Pro" and *Pile*, Gate, signifying an ante-Gate.

PROSTYLUS (*Lat.*). PROSTILO (*It.*). PROSTYLE (*Eng.*). The technical term from *Pros*, before, and *Stylos*, column applied to the second Order of edifices having columns in front only.

PROTYPUM (*Lat.*). PROTIPO (*It.*). PROTOTYPE (*Eng.*). The technical term for the first model or type of any production, an archetype.

PTEROMA (*Lat.*). ALA (*It.*). WING (*Eng.*). The term derived from *Pteron*, wing, applied to the lateral sections or wings of a building.

PULPITUM (*Lat.*). PULPITO (*It.*). PULPIT (*Eng.*). The name given to an elevated erection from which a speaker harangues an audience.

PULVINAR (*Lat.*). PULVINARE (*It.*). PULVINAR (*Eng.*). From "Pulvilus" a feather pillow or cushion, originally adopted to denote the cushioned couches provided for the Gods and subsequently applied to designate the Imperial Box at public ceremonies and exhibitions of which the "Suggestum" on an elevated dais was the Imperial Throne.

PULVINUS (*Lat.*). PULVINO (*It.*). PULVIN (*Eng.*). The technical term for identical ornamental lateral carvings between the volutes of those Ionic capitals which had two parallel, similar aspects, one in the front and the other behind.

PUTEUS (*Lat.*). POZZO (*It.*). WELL (*Eng.*). The Latin for the self-supplying water receptacle hollowed down in the soil.

PYRAMIS (*Lat.*). PIRAMIDE (*It.*). PYRAMID (*Eng.*). A solid, massive rectangular, vertical and generally high structure which from a quadrangular or other base rises decreasing gradually till it reaches the summit usually but not invariably culminating in a

perfect point. Similarly to the Obelisk it is assumed to be an invention as well as a typical production of Egyptian Architecture. The material adopted was generally huge blocks of granite but there are instances in which other stone substances were employed. There were four principal classes of these monuments, the colossal Tombs of the Pharaohs, namely: The plain Pyramid, that is, the type we usually see, the double Pyramid, which is composed of two sections, the lower serving as the base of trapezoidal shape meets the upper section that has the form of a low but pointed cone, the third variety with projecting ribs and mostly with a flat summit on which is sometimes placed a sculptured group and the fourth the Step-Pyramid, which consists of successive flights of steps, three, four, five or more in number, each flight being necessarily smaller as they proceed upwards and each divided severally by a space or landing, usually also with a flat top on which a building stands. The Tomb of the Persian King Cyrus is a stepped Pyramid or rather a variety of this category, because it is composed of one single flight of gigantic steps with a rectangular structure on its summit. We find the pyramidal form used in other architectures besides the Egyptian either imitated from the latter or invented by the peoples themselves. After the annexation of Egypt by the Romans this people adopted the pyramid for some of their monumental Tombs of which the sole surviving specimen *in situ* is the marble Mausoleum of P. Cestius in Rome. This word is conjectured to be derived from *Pir*, fire, owing to the form of a funeral pyre, the base representing the logs and the Pyramid the flame.

R.

REGIA (*Lat.*). REGIA (*It.*). ROYAL ABODE (*Eng.*). A term derived from "Rex," King, to describe a Royal Residence or Palace.

RETICOLATUS (*Lat.*). RETICOLATO (*It.*). RETICOLATUS (*Eng.*). A derivation of "Rete," net, to denote in architecture that kind of work executed on a ceiling, wall or pavement which resembles a net in shape and design. The "Reticolatus" or "Opus Reti-

colorum " was considered the best of all in the various works of this description.

RHEDA (*Lat.*). RIMESSA (*It.*). LIVERY-STABLE (*Eng.*). A word signifying a vehicle and also a " Mews," the latter being termed likewise " Rhedarum Receptaculum."

ROBUR (*Lat.*). QUERCIA (*It.*). OAK (*Eng.*). This Latin word has several meanings, viz: vigour, courage, oak, club or rod with which the condemned were beaten, and in architectural terminology, a dungeon.

ROSTRA (*Lat.*). ROSTRA (*It.*). ROSTRA (*Eng.*). The Latin word " Rostra " or Beak was adopted to designate the Beak-like, ornamental, bronze prows of ships. These Beaks were detached from the captured enemy vessels and brought to Rome as trophies where they were used to decorate public and private edifices and monuments, and in particular to adorn the Tribunician Platforms from which the orators addressed the citizens, and hence these erections took the name of " Rostræ." These buildings (of which the only surviving wreck, a fractured wall, is that of the Rostra Flavia in the Roman Forum) consisted of an elevated platform or terrace supported by a colonnade with intervening arches or by a pilastrade with walls, whereon the aforesaid prows were affixed. On the Platform was placed the Suggestum or Tribunician Throne. These bronze Beaks were also attached to the shafts of the Honorary Columns thence called " Columnæ Rostratæ." The only existing example of these, so far as we know, is that of Duilius, once erected in the Forum Romanum in memory of the first Roman naval victory over the Carthaginians, B.C. 260, and now surviving in a reconstruction of its genuine fragments affected by Buonarotti in the Capitoline Museum. It is reported that the vanished House of Pompeius Magnus among others was similarly ornamented by these Beaks in honor of his naval victories and hence indiscriminately denominated Domus Pompeia and Domus Rostrata.

S.

SACELLUM (*Lat.*). SANTUARIO (*It.*). SHRINE (*Eng.*). The Latin for a consecrated Sanctuary of a Deity in Pagan times and of a Saint

in the Christian. The ruins of the "Sacellum Juturnæ" in the Roman Forum may serve as a specimen of the type of the earlier Roman Shrine.

SACRARIUM (*Lat.*). SACRISTIA (*It.*). SACRISTY (*Eng.*). The Latin name for the apartments annexed to a religious edifice where the vestments and other sacerdotal articles were kept. The word is also sometimes used to denote an oratory or a chapel as a synonym of "Sacellum."

SAGITTA (*Lat.*). FRECCIA (*It.*). ARROW (*Eng.*). The technical term for the imaginary perpendicular line drawn from the keystone of an arch down to the level of the springers as the measure of its height.

SARCOPHAGUS (*Lat.*). SARCOFAGO (*It.*). SARCOPHAGUS (*Eng.*). A composite word from *Sarx*, flesh, and *Fagos*, eater, originating in the belief that a certain calcareous stone called *Sarcophagos Lithos*, possessed the property of speedily consuming the flesh of corpses, and in the course of time this word became the generic architectonic term for the ornate Tombs of sculptured stone, marble or even metal and in some cases decorated with chiselled, inlaid or applied, silver and gold. The Sarcophagus might either constitute of itself the entire Tomb or form part of the Sepulchral Monument or Mausoleum, in the latter case it was placed in the Tomb-Chamber generally in the centre of the Monument.

SCALARIA (*Lat.*). SCALA (*It.*). STAIRS (*Eng.*). The denomination applied to the staircases particularly those of Amphitheatres, Circuses, etc.

SCAMILLUS (*Lat.*). SCAMILLO (*It.*). SCAMILLUS (*Eng.*). Archæologists, palæologists and etymologists disagree with regard to the application of this word, some asserting that it signified the steps including also the lateral low walls or parapets leading to an elevation, others only the walls or parapets of the steps. These stair-walls might be built either on a slanting plan following the inclined line of the steps or rectilinearly, rectilinearly and extending above and beyond the staircase.

SCANSORIUS (*Lat.*). ASCENSORE (*It.*). ELEVATOR (*Eng.*). The precursor of the modern lift. With the ancient Romans there were

two kinds of lifts, the “*Macchina Scansoria*” worked by hydraulic power and the “*Scansorius*” by man power, and the many storied edifices were provided with these mechanical contrivances as well as the Amphitheatres and Circuses where they were used for the conveyance of the disabled or for the carrying up of the wild beasts that issued from the artificial caves or traps of the Arena.

SCAPUS (*Lat.*). FUSTO (*It.*). SHAFT (*Eng.*). The technical term for that part of the column, pillar or pilaster which stands between the capital and the base. This member varies in shape, dimensions and decorations according to the different architectonic Orders and styles. In the Classic architecture by the tapering form given to the shaft and the exclusion of all decorations thereon except in some cases the vertical flutings, an effect of exquisitely chaste and graceful symmetry and simplicity is obtained. In other architectures these and other golden rules of the Classic were either imperfectly applied or completely omitted. Among the variety of shafts may be cited those of the “*Columnæ Geminæ*” *Colonne Binatæ* (Twin Columns), that is, two distinct columns joined together, the shafts of the “*Columnæ Spiræ*” *Colonne Spirali* (Spiral Columns), either with spiral grooves or of an undulating, spiral shape, the “*Columnæ Anulæ*,” *Colonne Innanellate*” (Ring-Columns), having circlets round the shafts, the *Columnæ Candelabrum*,” *Colonne Candelabra*, (*Candelabra Columns*) consisting of a very high slender *Candelabra*, the *Columnæ Ophites*” *Colonne Oftiche*, (*Serpent Columns*), composed of two shafts like two intertwining serpents linked by a knot in the middle, whence arose their appellation of “*Ophites*” from *Ophis*, snake, and the *Colonne Gruppate* or Cluster of three, four or more columns or pillars adhering to each other in one group. With regard to the system of measurement of columns besides the one already mentioned based on the diameter, module and minute, there is another simple method sometimes adopted, roughly regulating the height relatively to the thickness of the shafts. For instance a Corinthian having 15 feet of circumference ought to be about 45 feet in height and naturally less for the other orders according to the proportions assigned to each.

SCIAGRAPHIA OR SKIAGRAPHIA (*Lat.*). DISEGNO (*It.*). DESIGN (*Eng.*). Also “*Scenographia*” and “*Ichnographia*.” The initial

preliminary outlining of a proposed work, a model, a plan. The terms are respectively derived from *Skia*, shade or shadow, from "Scena," Scene and from *Ihnos*, trace, prefixed to the verb *Grafo*, to write, Ichnographia may therefore claim to be the most appropriate term of the three to describe this sort of work.

SCOTIA (*Lat.*). SCOTIA (*It.*). SCOTIA (*Eng.*). The architectural term for the concave moulding of the base of a column always placed between two toruses and bordered by an upper and lower fillet. In the Corinthian and Composite bases there are two Scotiæ and in the Etruscan and Roman Doric suppressed.

SCULPTURA (*Lat.*). SCOLTURA (*It.*). SCULPTURE (*Eng.*). A derivation of the Latin verb "Scalpo" to engrave. Sculpture may be defined as the art of representing materially by means of a palpable imitation or idealistic creation in marble, ivory, stone, wood, of personages, events, works and even ideas and sentiments, and may be divided into two classes, the decorative or relief and the statuesque. The first owing to its conventional nature has necessarily to rely in order to produce the desired result on certain expedients with regard to size and depth, for instance perspective is obtained by smaller and larger, flatter or deeper units, while the second branch is a real and direct though mostly embellishing copy of a model standing independently and complete in all its parts. This Art in both its main branches is one of the most ancient known, the Indians, Assyro-Persians, Americans and other peoples of antiquity have all left wrecked relics of their works in this direction, but of all bequeathed to us those of the Egyptians, Greeks and Romans are the most in number and the works of the two European races the best artistically. Sculpture being a real embodiment, besides being one of the most beautiful and expressive of the Fine Arts, is also a potent means of education because it is calculated to perpetuate the memory of great events, or ideas or of personages conspicuous for their influence, services, talents, virtues or power.

SCUTULA (*Lat.*). SCODELLA (*It.*). BOWL (*Eng.*). In architectural language signifying the circular marble units or plates applied as ornaments to ceilings, walls, pillars, etc.

SECTILIS (*Lat.*). SECTILE (*It.*). SECTILE (*Eng.*). Or “Sectilis Opus” to describe the species of pavement consisting of sawn pieces of marble joined together. The word is derived from “Sectio” signifying a particle or section. The “Opus Alexandrinum” is a species of Sectilis of which the distinctive feature is that the pattern is composed of two different colors of marble on a white ground, as can be seen in the fragment of a pavement of a house at Pompeii. It has been extensively adopted since as for example in the church of San Lorenzo, Fuori le Mura, at Rome and several others.

SEPTA (*Lat.*). STECCATO (*It.*). PEN (*Eng.*). The Roman designation for the railed off and penned up sections used for electoral purposes. They were called “Septa Julia” from Julius Cesar, because it was only after his assumption of power that the Forum Romanum, where the elections took place previously, became insufficient to contain the increased number of electors who were in consequence transferred in part to these constructions formerly near the present Piazza Colonna.

SIGNINUM (*Lat.*). SIGNINO (*It.*). SIGNINUM (*Eng.*). Or “Signinum Opus” a work consisting of ground and pulverised terracotta mixed with lime to form a layer or stratum for pavements. It takes its name from the Volscian city of Signa or Signi the artisans of which excelled in this work.

SILANUS (*Lat.*). CONDOTTO (*It.*). CONDUIT (*Eng.*). Or “Selanus,” the Latin generic term for any water channel or canal.

SPECULAR (*Lat.*). SPECULARE (*It.*). SPECULAR (*Eng.*). A word derived from the verb “Specto” to look, to describe a transparent substance assumed by some to be identical with the well-known mineral called “talc” which is chemically a silicate of magnesia. The “Specular” or “Specularis Lapis” was adopted in antiquity very frequently in the place of glass for windows, conservatories, etc.

SPECUS (*Lat.*). SPELONCA (*It.*). CAVERN (*Eng.*). In architecture the word is used to signify the mouth of a canal or of a mine bored under the soil surface for military or other operations.

SPICA (*Lat.*). SPIGA (*It.*). SPICA (*Eng.*). Literally an ear of wheat or a fish-fin and architecturally used to describe the oblong bricks or stones with acute angles.

SPICATUM (*Lat.*). SPINAPESCE (*It.*). SPICATUM (*Eng.*). Or "Spicatum Opus" the name applied to the kind of pavement wrought in a pattern of insertion resembling the grains of an ear of wheat or a fish's fin.

SPOLIARIUM (*Lat.*). SPOGLATOJO (*It.*). SPOLIARIUM (*Eng.*). A word derived from "Spolio" to deprive, whence "Spolium," spoils, and in architecture signifying in general any compartment where people were undressed or deprived of their clothes or belongings, and in particular the hall where the deceased gladiators were undressed.

STADIUM (*Lat.*). STADIO (*It.*). STADIUM (*Eng.*). The term originally arose from the Race-course of Olympia which was one Stadium or 183 metres long and this unit of measure was afterwards adopted as the generic name for all similar buildings. The Stadium is often confounded with the Circus both being branches of the same architectural stock and therefore possessing some points of resemblance. They differ however in three respects, namely, in shape, in plan and in purpose. The Circus was in form an incomplete oval being quadrangular at the entrance, bisected lengthwise by the Spina, a low broad wall, and serving principally for chariot races and gladiatorial and naval combats, while the Stadium describing an unbisected oval was intended for foot races and other athletic sports wherefore it was also termed "Palæstra." We have an instance of a combination of the two in the "Circustadium Maxentii" the scant vestiges of which may still be seen to the left of the Via Appia near the Mausoleum Crassiæ. The only specimen of a Stadium now existing in or near the Eternal City are the ruins of the one of Domitian on the Palatine.

STATUA (*Lat.*). STATUA (*It.*). STATUE (*Eng.*). A sculptured, chiselled or moulded work in marble, stone, silver, gold, bronze, wood or any other suitable material consisting of one complete figure or a group of figures.

STOA (*Lat.*). STOA (*It.*). STOA (*Eng.*). A Hall, a porch, a gallery. The one in which the philosopher Zeno taught and lectured gave the name to his particular system of philosophy denominated "Stoicism" and to his disciples who were styled "Stoics." See Poicile page 318.

STRIA (*Lat.*). SCANELLATURA (*It.*). FLUTINGS (*Eng.*). Also termed “Strigæ” or “Striges” to designate in architecture the grooves with their fillets that traverse regularly and vertically the shaft of a column, pillar or pilaster either in its entire length from the anulus to the apophyge or in part from the anulus downwards to the third or half of the shaft. When the fluting is partial the remaining one half or one third of the shaft is either perfectly smooth or furrowed in continuation of the flutings, only the grooves of this portion are much shallower and less defined and are called “Patellæ” or Pans. The flutings vary in number from 16 to 24 and also in depth and width in conformity with the different Orders. According to the architectural canons the flutings assigned to the Etruscan and Doric Orders are shallower, broader and fewer, and marked and divided only by their own edges whereas those of the other Orders are narrower, deeper, more numerous and separated severally by their fillets which ought to measure in width one third or one fourth of the grooves.

STYLOBATES (*Lat.*). PIEDESTALLO (*It.*). PEDESTAL (*Eng.*). Or “Stylobata” the technical terms for the architectural unit provided with cornice, cube and base, standing either isolated or under a column, vase, chariot, statue, etc.

SUBSELLIUM (*Lat.*). SEGGIO (*It.*). SEAT OR THRONE (*Eng.*). A chair of State.

SUBSTRUCTUM (*Lat.*). FONDAMENTO (*It.*). FOUNDATION (*Eng.*). From “Sub,” under, and “Structum,” structure, to describe the foundation work of any building.

SUDATORIUM (*Lat.*). SUDATORIO (*It.*). SUDATORIUM (*Eng.*). A term derived from “Sudo,” to sweat, to indicate any compartment or construction intended for procuring transpiration, a vapour-bath.

SUMMUSCAPUS (*Lat.*). SOMMOSCAPO (*It.*). SUMMUSCAPUS (*Eng.*). From “Summus” summit, and “Scapus,” shaft, the technical term for the upper part of a shaft.

SUSPENSURA (*Lat.*). SUSPENSURA (*It.*). SUSPENSURA (*Eng.*). From “Suspendo” to suspend, and in architectural terminology signifying a building constructed over columns, piles or arches, otherwise a suspended fabric.

T.

TABERNA (*Lat.*). TAVERNA (*It.*). TAVERN (*Eng.*). This appellation was given to a variety of apartments, an office, a studio, a shop, and in modern times signifying a Wine-shop.

TABERNACULUM (*Lat.*). TABERNACOLO (*It.*). TABERNACLE (*Eng.*). Originally signifying a moveable building either for habitation or for worship, a tent, a pavilion. With the Israelities during their wanderings in the wilderness the word was used to denote their temporary temple and in the Roman Catholic Church the chest placed on the altar as a receptacle for the consecrated elements of the Eucharist, also the erection in the form of a canopy with columns placed over Thrones, Altars, etc., a Baldachino. The word is derived from "Taberna."

TABULARIUM (*Lat.*). TABULARIO (*It.*). TABULARIUM (*Eng.*). This word is a derivation of "Tabulæ" or Tablets, and was adopted to indicate the edifice where the Twelve Tables whereon the Roman Code was inscribed and also where the archives were kept. The peperino walls of the Tabularium of Rome are still to be seen on the slope of the Capitoline Hill.

TABULATIUM (*Lat.*). TRABEAZIONE (*It.*). ENTABLATURE (*Eng.*) The section which stands on the column capitals and which is divided into three principal members, viz.: the "Epistylum" or Architrave, that rests immediately on the substanding colonnade, the "Zophorus" or Frieze that comes next and the "Corona" or Cornice which is the highest or crowning part. These main members are divided again into several submembers and mouldings except the middle one, the Frieze, which consists of a single body. Each Order has in strictly Classic Architecture its own special entablature in accordance and harmony with its columns, and therefore anyone who knows anything of architecture ought generally to be able to establish the Order to which wrecked and partially disappeared edifices belonged by a fragment of its entablature as well as by a piece of its colonnade.

TAENIA (*Lat.*). TENIA (*It.*). BAND (*Eng.*). In architectural language denoting the fillet or plat-band usually broad, adopted in two ways, either straight and plain to divide the frieze from the

Architecture, O.

architrave in the Etruscan and Dorics or rounded and sometimes ornamented placed beneath the Greek Doric capital instead of the anulus of the other Orders.

TAXILLUS (*Lat.*). ZOCCOLO (*It.*). ZOCLE (*Eng.*). The technical term for the low, massive, rectangular member either adopted to sustain ornamental units such as vases, statues, etc., or placed under a range of columns like one continued plinth, otherwise a podium. It differs from the canonical pedestal in being entirely plain and often without cornice or base, a rectangular block. The central part of a pedestal or Cippus, that is, the cube, die or dado, is also termed Zocle.

TECTUM (*Lat.*). TETTO (*It.*). ROOF (*Eng.*). As is known the covering of a building, in shape, flat, slanting, or conical, in materials of bricks, tiles, wood, etc. The ancient Roman roofs of high class buildings were remarkable for the costly quality of the materials and the fine work, marble and bronze, sculptured and chiselled, gilt, or gold-plated.

TEMPLUM (*Lat.*). TEMPIO (*It.*). TEMPLE (*Eng.*). The appellation given to the edifices erected in honor of the Deities of Polytheism and for the performance of the sacred rites of their worship. In the primordeal stages of humanity there were no similar buildings to which this word as we now understand it could be applicable, and the few worship-structures that then existed were absolutely rough and rudimental. The Indians and also other ancient peoples frequently favored subterranean or excavated Temples hewn from the rock-flanks, some of which as art progressed were constructed with no little ingenuity and even grace, as for instance that of Elephanta, etc. The Assyrians were also renowned for the richness and work of their Temples. The Egyptians built their religious fabrics at first of small dimensions with a narrow cell where the sacred animal or its effigy were kept. Later their Temples were an assemblage of structures surrounded by a wall. Those of the Pelasgi, Celts, etc., were of course very rude and inartistic. The Etruscans, were it appears, the initiators in this continent of the edifices that developed later into the grandiose Pagan Temples, and though the Etruscan Sacred buildings were so far as we know, square Araiostyles, with smooth columns about seven diameters high and of an essentially simple

and plain character, theirs were the only ones of antiquity that can claim to be the progenitors of the Classic Temples. The earliest Greek Temples had the form of a plain quadrangular, low house, but subsequently those erected were famous for the beauty of their architecture and materials. Among the most celebrated were the Temples of Jupiter in Olympia, of Diana at Ephesus, of Minerva, of Erectheus and of Theseus in Athens, and of Apollo in Arcadia. The Roman Temples were constructed as a rule on a more varied and imposing scale while equaling those of the Greeks in the attributes of artistic beauty and symmetry. Among the numerous Roman Temples may be mentioned the Temples of Jupiter Capitolinus, Venus and Rome, Concord, Castor and Pollux, Panthaeum, etc. Among almost all peoples the religious edifices were as a rule the first in point of date and the most in point of number on which all the resources of art and wealth were lavished. The splendid secular edifices of every description came in generally later under the Aegis of Art and were in proportion less numerous. This fact is worthy of note and reflection as revealing and embodying the natural and perpetual aspiration and preference of mankind towards a higher and more spiritual sphere and existence than their actual ephemeral, terrestrial one.

TEPIDARIUM (*Lat.*). TEPIDARIO (*It.*). TEPIDARIUM (*Eng.*). From "Tepeo" tepid, to signify the tepid or warm water compartments for ablutions and in especial the main section of the Roman public Baths reserved for this particular purpose.

TESSERA (*Lat.*). TESSERA (*It.*). TESSERA (*Eng.*). The rectangular insertions in what is called a tessellated work mostly for pavements.

TESTUDO OR THOLOS (*Lat.*). CUPOLA (*It.*). CUPOLA (*Eng.*). The technical term for a vaulted, hemispherical construction, a dome. Etymologically Testudo means Testuggine or Tortoise, the shell of this reptile somewhat resembling in form the cupola.

TETRASTYLUS (*Lat.*). TETRASTILO (*It.*). TETRASTYLE (*Eng.*). A building with four columns in front.

THEATRUM (*Lat.*). TEATRO (*It.*). THEATRE (*Eng.*). A derivation of *Theama*, spectacle, to describe in architecture an edifice destined for histrionic performances and spectacles. The erection

of Theatres dates from the ancient Greek civilization and this people consistently proved themselves devotees of this species of exhibition and diversion. The Greek type of Theatre consisted at first of two main sections, the one assigned to the performers, a simple flat space with the altar of the Deity in the centre in whose honor the performance was given, including a separate portion within set apart for the orchestra, the other a semicircular space with concentric tiers of seats for the audience. These Theatres served in origin only for the Dyonisian Choruses, but in the course of time for the representation of Comic, Dramatic and Tragic plays. The first Theatre in stone with a regular stage, built in Athens about the time of Alexander of Macedon, served as the model in general plan and outline for the succeeding similar constructions. The Romans during the Royal and Republican Regimes, that is, for the greater portion of their history, disapproved of and prohibited the building of edifices for theatrical performances which were considered effeminate and corrupting. The first permanent stone and marble Theatre in Rome was the one erected by Pompeius Magnus, B.C. 55, who to evade the letter of the law ostensibly dedicated it to Venus Victrix and it was according to all reports an edifice of magnitude and magnificence. Then followed the Theatres of Balbus, Marcellus, etc., the latter begun by Cesar and terminated by Octavianus, B.C. 13, and which is the only building of this particular class whose ruins still survive in Rome. Broadly the internal arrangements of the Roman Theatres, which excelled the Greek in dimensions, decorations and imposing aspect, were as follows. The Stage, much larger than the Greek, was divided into the "Proscenium" where the actors appeared, the "Scena" where they acted and the "Postscenium" corresponding to the modern Foyer. The section destined for the audience was divided into the "Podium" for the spectators of the highest class, the Senators, Ambassadors, etc., located in the front nearest to the stage, the Cavea just behind for the Second Order, the Equestrian, and above and behind these again were the "Popularia" for the Burgesses, the furthest and highest part being allotted to the populace or rabble. The entire body of the Theatre, except the Stage, being divided by the Cunei and Præcentores as has been noted with the Amphitheatres.

THERMAE (*Lat.*). **TERME** (*It.*). **THERMÆ** (*Eng.*). From *Thermos*, hot, to designate hot Baths, and also afterwards very frequently but inappropriately to denominate comprehensively the entire Bathing Establishments.

TIGILLUM (*Lat.*). **TRAVE** (*It.*). **BEAM** (*Eng.*). Specifically signifying the beam under which prisoners of war or other condemned persons passed as a moral penalty. The 'Tigillum Sororum' or Sister's Beam, beneath which Horatius was sentenced to pass in punishment as an act of penance for his murder of his sister in the reign of Tullius Hostilius B.C. 671-539, stood in Rome for several centuries near the Porta Capena where the act occurred, maintained at the public care and expense.

TORUS (*Lat.*). **TORO** (*It.*). **TORUS** (*Eng.*). The technical term for the projecting moulding of a column's, pillar's or pilaster's base. The convex "Tori" are the compliment of the concave *Scotiæ* with which they alternate in the more ornate orders, while in the plainer ones the former stand alone with the plinths.

TRANSENNA (*Lat.*). **TRANSENNA** (*It.*). **TRANSENNA** (*Eng.*). A Latin word signifying "Grating" and in architecture the term for that particular kind of balustrade much favored then for balconies, terraces, platforms, partitions, etc. It consists of quadrangular spaces with diamond shaped apertures formed by the crossing fillets and intersected at regular intervals by small, low, round-topped pillars. These Transennæ were generally of marble. There are two wrecked specimens in Rome still, the Transenna of the Domus Caligulæ overlooking the Via Victoriæ which winds from the Roman Forum to the Palatine and the other broken Transenna belonging to the former Basilica Flavia on the same Hill.

TRICLINIUM (*Lat.*). **TRICLINIO** (*It.*). **TRICLINIUM** (*Eng.*). The etymology of this word adopted to designate the Dining-room of the Roman Domus has been the subject of controversy among many scholars, some maintaining that it derives from the verb "Clino" to recline or incline, others from "Tricla" the name given to an isolated chamber erected in an open spot and intended expressly for repasts. History informs us that Scipio Africanus introduced

among the Romans the Carthaginian custom of taking meals in a reclining position and that he brought over from Africa the cushions used there for this purpose, and it is inferred that the prefix "Tri" was added because there were three principal seats reserved at the head of the table to which were afterwards added three similar ones at the foot. These Tricliniæ, as luxury and taste developed more and more, became spacious, ornate and magnificent, and the first imported couches were replaced by others of precious materials and exquisite workmanship with the utensils, and all the rest in harmony, till we reach the highest scale of tasteful grandeur in the famous Tricliniæ of Lucullus, Heliogabalus, etc.

TRIGLYPHUS (*Lat.*). TRIGLIFO (*It.*). TRIGLYPH (*Eng.*). This word is formed by the union of "Tri" three, and "Glyphus" groove, and in architectonic terminology is applied to designate the characteristic and indispensable ornament of the Doric frieze. It consists of a raised square or nearly square body traversed perpendicularly by two rectilinear grooves cut internally in a triangular shape, divided by three "Femuræ" or vertical bands, the two outer sides are each a half groove, these two lateral halves being calculated as one, in all therefore three grooves, whence the appellation of "Triglyphus," the whole resting directly on the tænia or platband that separates the frieze from the architrave, and completed by the narrow fillet immediately attached beneath with the appended guttæ. The Greek Triglyph differs from the Roman in several particulars. The Femuræ of the former are much narrower than their grooves, which are rounded at the top, the Drops are square and the entire moulding is placed in a line with the profile of the Frieze; the latter or Roman Triglyph, constitute a complete quadrangle with its Femuræ of equal width with the square-topped Glyphs, its appended Guttæ conical shaped and the place assigned to it on the frieze being one third of its own width distant from the frieze's profile and correponding exactly with the middle of the substanding column of which it measures two thirds of the diameter. From the standpoint of clear-cut boldness the Roman Triglyph is superior to the Greek.

TUBUS (*Lat.*). TUBO (*It.*). TUBE (*Eng.*). In reference to

buildings this word is used to denote any pipe for the conveyance of hot or cold water, air or vapour.

TUMULUS (*Lat.*). **TUMULO** (*It.*). **TUMULUS** (*Eng.*). In architecture signifying a Tomb in the shape of a mound, the primitive predecessor of the Sepulchral Monument or Mausoleum.

TURRIS (*Lat.*). **TORRE** (*It.*). **TOWER** (*Eng.*). A stronghold, generally round and of small dimensions, that may either stand isolated or be attached to city or fortress walls or to any buildings.

TYMPANUS (*Lat.*). **TIMPANO** (*It.*). **TYMPAN** (*Eng.*). The Latin for "Drum" and in architecture applied to indicate the flat surface within the borders of a pediment. In the greater Temples and Palaces the Tympan of the façade was often decorated with elaborate reliefs representing the Deities or the masters of the edifice, or historical or mythical scenes.

U.

UDUSTECTORIUM (*Lat.*). **AFFRESCO** (*It.*). **FRESCO** (*Eng.*). A term composed of the words "Udus," humid, and "Tectorium" plaster, to describe that kind of painting which is executed on a damp, prepared surface of a wall, ceiling, etc.

URBS (*Lat.*). **CITTA** (*It.*). **CITY** (*Eng.*). The Latin for a town surrounded by walls and when used by the Romans without any name annexed signified by *autonomasia*, vernacularly, the City of Rome, as with the English at present with whom the phrase "to go or be in Town means," to go or be in London" as if there was only one City, the reason being in both cases the same, that these Capitals are relatively too great in proportion to their respective countries and absolutely outshine all other towns.

URNA (*Lat.*). **URNA** (*It.*). **URN** (*Eng.*). The name of a recipient of measure containing 12 congi, that is to say, half the capacity of an Amphora, and adopted to designate a vase either to collect the votes of electors or the cremated ashes of the deceased, in the latter case synonymous with "Olla Cinerariæ."

USTRINA (*Lat.*). **FONDERIA** (*It.*). **FOUNDRY** (*Eng.*). This word has three meanings in Latin, a construction for the purpose of melting metals, a limekiln, and a building where corpses

were burnt, a Crematory, in the latter case also termed "Ustrinum."

V.

VAS (*Lat.*). VASO (*It.*). VASE (*Eng.*). The architectonic term for that part of the capital of the Corinthian and Composite Orders which is exclusive of the Abacus and Anulus, owing to its shape resembling a vase or reversed bell, and corresponding to the Echinus of the other Orders. The Vas differs in conformation and composition in the Greek and Roman Corinthian varieties. With the former the outline is indented often so as to form almost two vases one superposed on the other, or perhaps it might be better described by comparing it to a vase with an indentation in the middle like a waist, its foliage does not consist uniformly of Acanthus but also of other leaves and it is sometimes ornamented with bosses. There is also another type of Greek Corinthian in which the volutes and helices are suppressed. With the Roman architecture the Vas describes a perfect reversed bell in shape, its sinuous outline only necessarily interrupted by the curling tips of the leaves which are exclusively of the Acanthus. The Roman variety is the more homogeneous and harmonious and as such preferred as the Classic model by posterity. The Vas of the Composite capital is slightly narrower at its summit formed by the volutes although the latter are larger than those of the Corinthians, with the result that the Composite presents a richer and more compact aspect. The Vas of the Egyptian capitals of the Palm Order also followed the above rule as to shape but those of the Lotus on the contrary might be likened to a bell not reversed but in its usual position or rather of having the form of a huge bulb or bud, while the Athoric capital is composed of four parallel faces turned in four different directions and that of the Protodoric of a massive abacus only. In other architectures no rules can be fixed relatively to the configuration or composition of the Vas, an infinite and unregulated license and variety being allowed and adopted.

VELARIUM (*Lat.*). VELARIO (*It.*). VELARIUM (*Eng.*). A term derived from "Vela," sail, and applied specifically to the

awning which was drawn over uncovered edifices as a protection against the heat of the sun, rain or other intemperances of the weather. The enormous Velarium of the Flavian Amphitheatre was attached to pine-masts and managed by the sailors of the Imperial fleet.

VERMICOLATUS (*Lat.*). INTARSIATO (*It.*). INLAID (*Eng.*). From “Verme,” worm, to describe an ornamental work of incision and insertion in the form of any pattern consisting of materials, wood, marble, metals, etc., of hues and quality differing from those of the ground surface on which it is executed. The word arose from the wriggling, undulating movements of the Verme or worm.

VESTIARIUM (*Lat.*). VESTIARIO (*It.*). VESTIARIUM (*Eng.*). From “Vestis” clothes, signifying any place where habiliments were kept, a wardrobe, a dressing-room.

VESTIBULUM (*Lat.*). VESTIBOLO (*It.*). VESTIBULE (*Eng.*). A term deriving from “Vesta,” fire, and originally adopted to denote the place or room in the habitation of the Chief or King of a tribe or community in primitive times where a fire was constantly kept burning, and later to indicate the special compartment of the Domus reserved for the accomodation of guests and later still to designate an entrance-hall, an ante-room, an ante-court.

VIA (*Lat.*). VIA (*It.*). STREET OR ROAD (*Eng.*). The collective Latin name for the constructions on the surface of the soil that serve as arteries of communication between one place and another either within or without a city. “Vicus” was the diminutive, a lane, a path. The Romans are considered with justice to have excelled all other peoples of antiquity and it may be added of modernity as road-constructors.

VILLA (*Lat.*). VILLA (*It.*). VILLA (*Eng.*). This class of construction was a national institution of ancient Rome and modern Italy. In antiquity this comprehensive term was applied to describe either a public edifice such as the Villa Publica in Rome corresponding in a manner to the modern Municipal Buildings or a private residence comprising habitations, orchards, gardens and also Temples, Circuses Baths, etc. In modern Italy on the

other hand the word is employed to designate public Parks and Gardens in a town as well as country private Residences. With other nations it signifies a country seat or a suburban house, but the dwellings grandiloquently styled Villas now do not as a rule resemble the modern Italian and much less the ancient Roman Villas in anything except the name which vouches for their Latin origin. The ancient Villas were divided into three main sections, viz : The " Urbana " or habitation proper of the proprietor, his family and immediate attendants, the " Rustica " where the horses, cattle, harness and implements of agriculture were kept and the " Fructuaria " which were the Magazines and Store-rooms for the productions of the Estate. These Villas in the course of time and progress of refinement assumed vast proportions in which magnificence, comfort and luxury vied with each other as for example, the Villas of Lucullus, of Maecenatus, Quintilius, Sallustius, etc., and the Queen of Villas of Hadrian at Tivoli.

VIVARIUM (*Lat.*). VIVARIO (*It.*). VIVARIUM (*Eng.*). From " Vivens," living, and applied to the constructions intended for keeping wild beasts. Owing to the continual demand for these savage animals, particularly during the Imperial times, in Rome for the Amphitheatrical exhibitions, these " Vivaria " were extensive and built with every care to ensure the well being and custody of their ferocious inmates.

VOLUTA (*Lat.*). VOLUTA (*It.*). VOLUTE (*Eng.*). The architectural term derived from the verb " Volvo " to revolve, to designate the circular members with internal revolving lines resembling the extremities of a scroll, which are the characteristic and principal features originally of the capital of the Ionic Order and subsequently also for the Corinthian and Composite Orders. In the Ionic the Volutes with the Abacus under which they are immediately placed, constitute the entire capital, in the Corinthian, identically placed, occupy one fourth of the depth of the Vas and in the Composite similarly one third. The Volutes of the Greek Ionic having two identical aspects are parallel and rectilinearly placed, the other two lateral aspects being occupied by the pulvini, in all other cases these members follow of course the slightly curvilinear and con-

cave shape of their respective capitals. The origin or model of the Voluta has been a disputed and as yet unsolved problem. Some authorities opine that the peculiar arrangement of womens' hair of those times in the form of rolls on each side of the head fixed by some ornament in the middle of the coil first gave men the idea of the Volute with its central "Oculus" or "Flosculus." Others assume that this member was suggested by the curling of rams' horns which have more decided larger and clear-cut internal revolving lines than human fine hairs unless arranged in plaits. A third party maintain that the Volute was the architectural offspring of the shell with its spiral convolutions. Considering that the first hypothesis is based on an artificial and continually changing and varied headdress and that the second and third on nature's firm, immutable handiwork it seems more probable that the latter inspired the idea of this member to the early architect-inventors who came of a pastoral and seafaring people. This assumption is further confirmed by the two types of Ionic Volutes, the one composed of a large revolving line of which the curl of the rams' horns might well have served as a model, the other with finer and more lines closely resembling the shells' spirals. See Orders of Classic Architecture, page 242.

X.

XENODOCHIUM (*Lat.*). ALBERGO (*It.*). HOTEL (*Eng.*). A derivation of *Xenos*, stranger, to describe any building intended for the accomodation of strangers or travellers on the condition of a pecuniary return and profit for the host.

XISTUS (*Lat.*). LOGGIA (*It.*). GALLERY (*Eng.*). Also "Xistum" to denote a covered corridor, a portico.

Z.

ZONA (*Lat.*). ZONA (*It.*). ZONE (*Eng.*). In architecture signifying a circuit, a circumvallation.

ZOPHORUS (*Lat.*). FREGIO (*It.*). FRIEZE (*Eng.*). The technical term in architecture for the large, flat, middle member of the

entablature having the cornice above and the architrave below it. The Frieze may be either plain or ornamented. The depth assigned to this main member in relation to the other two differs with the several Orders. With the Etruscan it is narrower than the Cornice and about the depth of the architrave, with the Greek Doric it is much broader than the cornice and a little broader than the architrave, with the Roman Doric the cornice and the frieze are of about the same depth and the architrave narrower, with the Greek Ionic the cornice and architrave are of about the same breadth and the frieze narrower, with the Roman Ionic the three members are of nearly the same width, with the Greek Corinthian the cornice inclusive of the antefixus is the deepest the other two members being about equal, with the Roman Corinthian the cornice is the broadest, the architrave comes next and the frieze is the narrowest, and with the Composite the same canons rule as regards depth as in the Roman Corinthian. In respect to the particular features of each frieze, the Etruscan is invariably smooth and plain, the Dorics uniformly characterized by the triglyphs with the intervening spaces, the Metopes, either plain or decorated in relief with figures, bulls, skulls, rosettes, etc., with the Ionics this member may be either plain or ornamented frequently with the Encarpus, and with the other Orders the frieze may also be plain and smooth or decorated with reliefs representing human and animal figures, scenes, ornamental units such as vases, candelabra. In profile the frieze may correspond with either of the facias of the architrave below, but it is considered that the best affect is obtained when its outline corresponds with that of the lowest facia. With the Dorics the profile of the frieze and the single facia below of the architrave form one perpendicular line interrupted only and necessarily by the projecting end of the tænia that divides the two members. It has been affirmed that the word "Zophorus" either arose from a combination of life, *Zoe*, or *Zoon*, animal and *Phero*, to carry, in either case from something endowed with animation, owing to the decorations in relief with which this member was frequently adorned consisting often of human or animal figures, of historical scenes and events etc. On the other hand we know that the decorations were not always

of this nature, for besides the triglyphs which are certainly not reproductions of living objects, the frieze was likewise enriched frequently with other ornaments of an inanimate character such as candelabra, rosettes, or with semi-living ones such as flowers and plants, wherefrom two conclusions may be drawn that while the above hypothetical derivation of the word is doubtful there has not been to our knowledge any other origin suggested or discovered hitherto for this term in substitution.

ZOTHECA (*Lat.*). ALCOVA (*It.*). ALCOVE (*Eng.*). The Latin word to describe in general any small recess or room separated from another by a screen or curtain.

FINIS.

Royal 8vo.

Price 10/6 (Postage 6d.). Cloth extra.

PERSPECTIVES

A Comprehensive Treatise for the use of
Architects, Draughtsmen, Students, and
School of Art Teachers on the methods of
setting up Perspectives, the subject of
Geometrical Perspectives and Perspective
of Shadows and projected representations
of Light.

The work contains 78 illustrations, with
expert information clearly and fully
explained.

By

ALBERT C. FREEMAN, Architect,

Author "Small Estates Management,"
"Planning of Fever Hospitals,"
"Crematoria in Great Britain and Abroad,"
Etc., etc.

LONDON:

DRANE'S, DANEGELD HOUSE, FARRINGDON STREET, E.C.



Date Due

D 12 '45	OCT 6 - '50	JAN 23 '62	
to 30 '46	OCT 19 '50	FEB 26 '62	
O 28 '47	NOV 16 '50	MAR 19 '62	
D 10 '48	MAR 16 '51	OC 30 '64	
E 15 '47	OCT 3 '51	NO 13 '64	
Mr 20 '47	DEC 14 '51	MR 2 '65	
Mr 21 '47	FEB 1 '52	DE 16 '65	
D 17 '47	29. 82 150	MY 9 '66	
Mr 18 '48	MAY 5 - '53	MY 31 '66	
Mr 18 '48	OCT 26 '54	OC 9 '67	
Mr 12 '49	NOV 11 '54	JA 11 '73	
Mr 20 '48	DEC 14 '54	FE 19 '74	
FEB 16 '49	JAN 17 '55	NO 20 '70	
FEB 23 '49	MAR 20 '57	MR 31 '81	
MAR 9 - '49	OCT 7 '57	FE 24 '82	
APR 6 - '49	NOV 24 '57	JE 8 '84	
AUG 8 - '49	NOV 7 '57	JUN 21 '84	
OCT 17 '49	NOV 24 '57		
©	NOV 29 '61		

MARYGROVE COLLEGE LIBRARY
Ancient & mediaeval architecture
722 P62



3 1927 00117727 5

722
P62

